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THESIS

AN EXAMINATION OF THE PERFORMANCE OF A NATURAL TRUNCATION POINT AND ACCEPTANCE RULE FOR A CURTAILED WALD SEQUENTIAL SAMPLING PLAN WITH BERNOULLI PARAMETERS

by

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This paper examines the performance of a proposed truncation and acceptance rule for the Wald Sequential Probability Ratio test for Bernoulli parameters and the rules influence on errors of the first and second kind as well as the average number of items sampled for inspection. The proposed truncation and acceptance rule suggest that there exists a natural truncation point for every Sequential Probability Ratio test such that the desired error probabilities are not exceeded or that one of the true errors is smaller then desired and the other will be exceeded by an insignificant amount. A computer program is used to simulate the sampling process and provide estimates of the true values of a plan's Operating Characteristic curve, its average sample number , as well as the probability of implementing the truncation and acceptance rule. Results suggest that truncation and rejection of a lot at the natural truncation point will maintain a plan's desired Operating Characteristic curve. The cases examined also suggest that any modifications to the natural truncation point truncation and acceptance rule may cause an unacceptable deviation from the desired Operating Characteristic curve. Finally, a linear equation was developed which provides an estimate of the upper limit on the probability of implementing a truncation and acceptance rule and that in most cases, this upper limit is less than 0.15.

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ABSTRACT

This paper examines the performance of a proposed truncation and acceptance rule for the Wald Sequential Probability Ratio test for Bernoulli parameters, and the rule's influence on errors of the first and second kind as well as the average number of items sampled for inspection. The proposed truncation and acceptance rule suggests that there exists a natural truncation point for every sequential probability ratio test such that the desired error probabilities are not exceeded or that one of the true errors is smaller then desired and the other will be exceeded by an insignificant amount. A computer program is used to simulate the sampling process and provide estimates of the true values of a plan's Operating Characteristic curve, its average sample number, as well as the probability of implementing the truncation and acceptance rule. Results suggest that truncation and rejection of a lot at the natural truncation point will maintain a plan's desired Operating Characteristic curve. The cases examined also suggest that any modification to the natural truncation point truncation and acceptance rule may cause an unacceptable deviation from the desired Operating Characteristic curve. Finally , a linear equation was developed which provides an estimate of the upper limit on the probability of implementing a truncation and acceptance rule, and that in most cases, this upper limit is less than 0.15.

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I. INTRODUCTION

Quality control has been a part of every industry for as long as there has been industry. Statistical quality control, on the other hand, is a relatively new thing with its greatest developments occurring in just the past 80 or so years [Ref. 1]. During those 80 years, the military played a major role in forcing industry to adopt statistical quality controls as a way of assuring that the quality of products they were buying met their specific requirements. A number of procedures were developed for sample inspection, most of which required inspectors to randomly draw a fixed number of sample items from a lot and inspect each one. If from these drawn items the number of defective or nonconforming items exceeded a specified critical value the lot was rejected , otherwise it was accepted.

During the late 1940's , Abraham Wald indicated that there could be a fairly large economy in the average number of items inspected , or the Average Sample Number (ASN) , sometimes as much as 50%, through the use of sequential statistics [Ref. 1]. However there is one shortfall of this sequential method and that is that the number of items sampled typically has a large variance and the maximum number of items that may need to be inspected before a decision can be made is unbounded. Wald suggested a way of truncating the process but warned that this could change the probabilities of the errors of the first and second kind [Ref. 6]. In recent years there have been a number of papers written about this problem , suggesting decision rules and methods for truncation. One of these papers , by Jurgen Petersen , suggests that there is a natural truncation point (NTP) for every

Sequential Probability Ratio (SPR) test at which a decision can be such that the desired errors will not be exceeded or that one of the true errors will be smaller then required and the other will be exceeded by an insignificant amount [Ref. 5].

This paper shall examine and evaluate the effects of using the NTP and decision rule on the Operating Characteristic (OC) and ASN of given SPR plans. It will also attempt to find the probability that in any given lot of items the truncation and acceptance rule may need to be implemented , that is , that decision to accept or reject will not have been made prior to the truncation point.

In order to evaluate the proposed truncation and acceptance rules, a computer program was written to simulate a SPR sampling process using these rules. This program provides estimates of the probability of acceptance , the ASN , and the probability that the rule will be implemented for a number of specified sampling plans. These computed values will then be compared to Wald's theoretical values for the same SPR plans when no truncation rule is used.

This study will proceed in the following way: Chapter II will describe the Wald Sequential Probability Ratio Test for a Bernoulli parameter. It will include a description of planned errors of the first and second kind, the testing procedure and sequential-sampling chart , the development of OC curves, and the calculation of the theoretical ASN . The third chapter will be a description of the NTP and decision rule that will be used and a brief explanation of how the NTP was obtained. Chapter IV will describe the simulation and the SPR plans that were evaluated and in the final chapter, the results of the simulation will be discussed and conclusions drawn.

II. WALD'S SEQUENTIAL PROBABILITY RATIO TEST

The sequential method of quality control is a hypothesis test in which items are drawn from a lot sequentially and where one of three decisions can be made at any point during the test: (1) to accept the null hypothesis , (2) to reject the null hypothesis , (3) to continue the test by sampling more items. If either the first or second decision is made, the testing is terminated. If the third decision is made, the process is continued, selecting one item at a time until either the first or second decision is made. This testing method as well as definitions of the null hypothesis , Bernoulli parameters , and possible errors will be described in the following sections.

A. BERNOULLI PARAMETERS AND ERRORS OF THE FIRST AND SECOND KIND

Like most quality control plans, Wald's SPR test requires that a number of parameters be specified. The first of these parameters is the Acceptable Quality Level or AQL. The AQL is the proportion of nonconforming items that may be found in a lot and still have the lot called acceptable. This acceptable proportion is designated as the Bernoulli parameter P1. P1 is usually specified by the consumer as well as a value for α such that:

$$\Pr(\text{ Rejecting a lot } \mid Pa = P1) = \alpha \quad , \qquad (1a)$$

or

$$\Pr(\text{ Accepting a lot } \mid Pa = P1) = 1-\alpha \quad , \qquad (1b)$$

where Pa is the actual proportion of nonconforming items in the lot. These equations describe the Type I error associated with acceptance sampling. Stated in terms of a hypothesis test, the null hypothesis is that the actual proportion nonconforming is P1, and α is the significance level for the test.

The value of α is often known as the "producers risk" for it is the chance that the producer takes of having a lot consisting of satisfactory items rejected by the test. The consumer also has a risk associated with acceptance sampling. This consumers risk is designated as β such that the

$$\Pr(\text{ Accepting a lot } \mid Pa = P2) = \beta \quad , \qquad (2)$$

where P2 is greater than P1 and is a value of the lot fraction nonconforming that the consumer is willing to take a $\beta(100)\%$ chance of accepting. The consumer's risk equation describes a value of a Type II error associated with acceptance sampling.

The hypothesis test associated with acceptance sampling is

$$\begin{aligned} Ho&: Pa = P1 \\ Ha&: Pa > P1 \end{aligned}$$

with , α , β , P1 , and P2 specified as discussed above. The values of P2 and β define a point on the test's Operating Characteristic (OC) curve. Note that the hypothesis test is only a one-sided test for it would make little sense to test for Pa being less than the AQL. The typical values for α and β are 0.05 and 0.10 respectively , and when used in Equations (1b) and (2) , define two points on the test's OC curve.

B. SEQUENTIAL PROBABILITY RATIO

In the Wald Sequential plan, items are drawn randomly from a lot one item at a time and inspected. After the nth item is inspected with c nonconforming items having been found, the sequential probability ratio is computed, compared against two test values A and B, and a decision is made as follows:

$$SPR = \frac{Pr\,(\text{reaching } n\,,\, c\,/\,Pa = P2\,)}{Pr\,(\text{reaching } n\,,\, c\,/\,Pa = P1)} = \left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]^{c} * \left[\frac{1-P2}{1-P1}\right]^{n}, \quad (3)$$

and if SPR ≥ A then stop sampling and reject Ho,
if SPR ≤ B then stop sampling and accept Ho, and
if B ≤ SPR ≤ A then continue sampling .

The constants A and B are derived so that the test will meet the requirements of Equations (1) and (2) . An upper limit for the constant A is found to be the ratio of the probability of rejecting the null hypothesis Ho when the alternative hypothesis Ha is true divided by the probability of rejecting Ho when Ho is true, yielding

$$A \leq \frac{1 - \beta}{\alpha} \quad . \qquad (4)$$

A lower limit for B is found to be the ratio of the probability that Ho is accepted given that Ha is true divided by the probability that Ho is accepted given that Ho is true or written as an inequality:

$$B \geq \frac{\beta}{1 - \alpha} \quad . \qquad (5)$$

Wald showed that when the inequalities in Equations (4) and (5) are replaced by equalities, we have conservative values for A and B. [Ref. 6]

C. SEQUENTIAL SAMPLING CHART

Wald then greatly simplified the SPR test by removing the requirement of computing the SPR every time a sample is taken. He removed this requirement by developing a chart on which an inspector needed only to plot a point, where the abscissa is the total number of items inspected up to that time and the ordinate is the total number of those items which were found to be nonconforming [Ref. 1]. If the plotted point stays between the two parallel lines on the sampling chart, no decision is made about the lot and the inspection is continued. If a point is plotted and it falls on or above the upper parallel line the inspection is terminated and the lot rejected, but if a point is plotted and it falls on or below the lower of the two parallel lines, the inspection is terminated and the lot is accepted. Figure 1 shows what a typical sequential sampling chart may look like and how the points are plotted until a decision can be made. In Figure I , the decision would be made is to reject the lot.

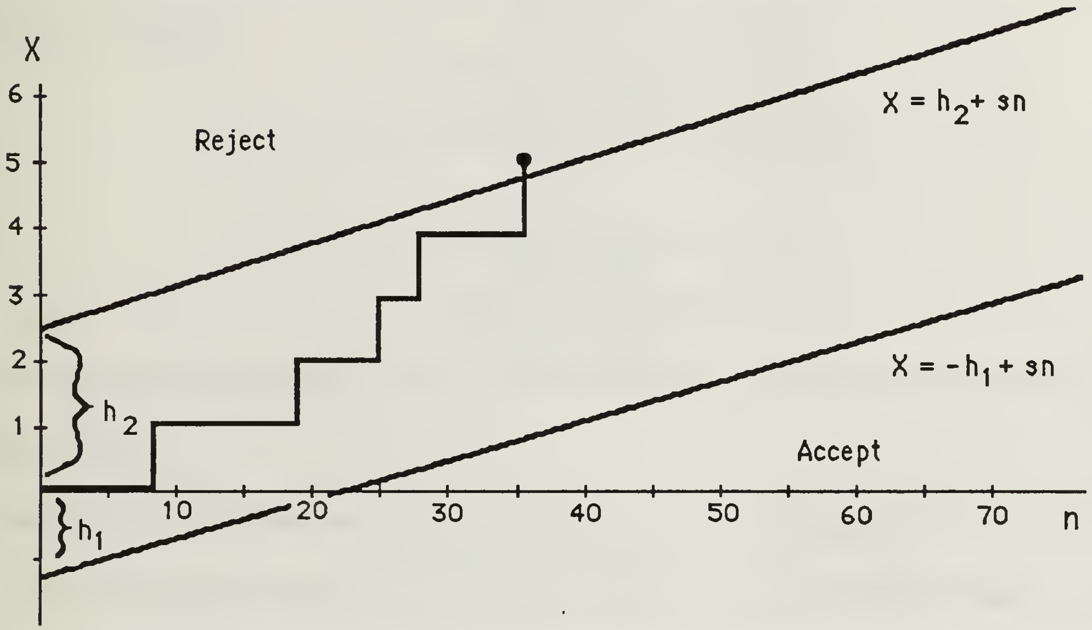


Figure 1 -AN EXAMPLE OF A SEQUENTIAL SAMPLING CHART

The values of h_1 , h_2 , and s are arbitrary labels for constants which can be derived by setting the values for A and B equal to the right hand side of Equation (3) and then solving for c. When the value for A is set equal to the right hand side of Equation (3) and c is solved for, the result takes the form of $c = -h_1 + sn$. When B is set equal to the right hand side of Equation (3) and c is solved for, the result takes the form of $c = h_2 + sn$ where [Ref. 1]

$$h_1 = \frac{\ln\left[\frac{1-\alpha}{\beta}\right]}{\ln\left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]} \quad , \qquad (6)$$

$$h_2 = \frac{\ln\left[\frac{1-\beta}{\alpha}\right]}{\ln\left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]} \quad , \quad \text{and} \qquad (7)$$

$$s = \frac{\ln\left[\frac{(1-P1)}{(1-P2)}\right]}{\ln\left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]} \quad . \qquad (8)$$

There are a number of items to note about the sequential sampling chart. The first item to note is that there is a minimum number of samples that need to be taken before a decision can be made. The second item worthy of being pointed out is that not all values of n represent an opportunity for accepting or rejecting Ho. Acceptance can occur only at those values of n where $-h_1+s(n-1) < X \leq -h_1+sn$, where both X and n are non-negative integers. The values of n that meet this condition will be called acceptance points. The final item worth noting is that since the acceptance and rejection lines are parallel to each other , the maximum number of items that need to be sampled before a decision can be made is unbounded. It is this difficulty with sequential sampling that led to the truncation and acceptance rule that will be discussed in the next chapter.

D. THE OC CURVE FOR A SPR SAMPLING PLAN

The Operating Characteristic (OC) curve for SPR sampling plan is a curve that shows the probability of accepting a lot of items given the actual proportion of nonconforming items in that lot (Pa). This OC curve should reflect the desired parameters such that

$$\Pr(\text{accepting } H_o \mid P_a = P1) = 1 - \alpha \,,$$

and

$$\Pr(\text{accepting } H_o \mid P_a = P2) = \beta$$

are two points on the plan's curve. It also has been shown that a third point on the curve is [Ref. 1]

$$\Pr(\text{accepting } H_o / P_a = s) = \frac{h_2}{h_1 + h_2} \,.$$

Other points on the OC curve can be obtained from the parametric equations

$$P_a = \frac{1 - \left[\frac{1 - P2}{1 - P1}\right]^{\theta}}{\left[\frac{P2}{P1}\right]^{\theta} - \left[\frac{1 - P2}{1 - P1}\right]^{\theta}} \,, \qquad (9)$$

and $$\Pr(\text{accept } H_o / P_a) = \frac{\left[\frac{1 - \beta}{\alpha}\right]^{\theta} - 1}{\left[\frac{1 - \beta}{\alpha}\right]^{\theta} - \left[\frac{\beta}{1 - \alpha}\right]^{\theta}} \,, \qquad (10)$$

where θ is an arbitrary value which ranges from negative infinity to infinity such that for $\theta = 1$, we have Pa = P1, for $\theta = -1$ we have Pa = P2 and for $\theta = 0$, Pa = s. An example of an Operating Characteristic curve is shown in Figure 2.

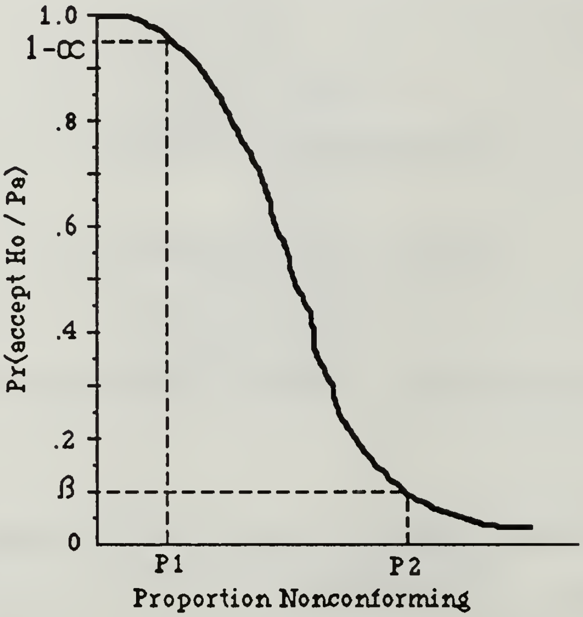


Figure 2 - AN OPERATING CHARACTERISTIC CURVE

E. THE AVERAGE SAMPLE NUMBER (ASN) CURVE

As discussed earlier in this paper, the number of items that will be required to be sampled before a decision can be made is a random variable, but Wald showed that it is possible to compute its expected value as a function of the plan's parameters and Pa. The equation for computing the ASN is as follows [Ref 1]:

$$\mathrm{ASN}(Pa) = \frac{\Pr(\text{accept}\,|\,Pa)\, h_1 - (1 - \Pr(\text{accept}\,|\,Pa))\, h_2}{s - Pa} \quad . \quad (11)$$

Equation (11) can be simplified at specific values of Pa such that $\mathrm{ASN}(Pa = 0) = h_1/s$, $\mathrm{ASN}(Pa=1) = h_2/(1-s)$, and $\mathrm{ASN}(Pa=s) = h_1 h_2 / s(1-s)$.

There are several items that should be noted about the ASN for any given SPR plan. The first of these is that the maximum ASN for any given plan will occur around the point where Pa = s and it is possible that this ASN will be larger than the sample numbers for some other types of sampling plans [Ref. 1]. Second is that the larger the difference between P1 and P2, the smaller the ASN. A final observation is that the greater the values of α and β, the smaller the ASN. Figure 3 shows what a typical ASN curve might look like.

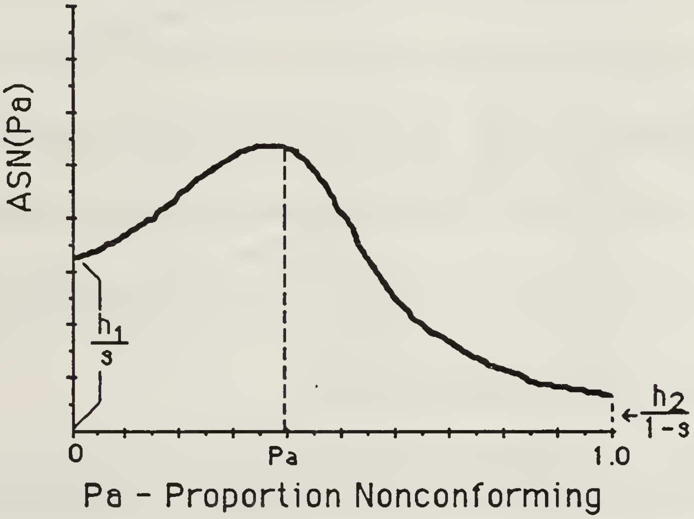


Figure 3 - AN ASN CURVE

III. THE NATURAL TRUNCATION POINT AND ACCEPTANCE RULE

It has been shown that the probability that a sequential test will eventually terminate is 1.0, but we have also seen that the maximum value for n at which this termination will occur is unbounded [Ref. 6 , p. 157-158]. It is because this maximum value is unbounded that we may find it necessary to set a definite upper limit , n_o , for the number of items to be inspected. It is at this truncation point that the test will be terminated and a decision on whether to accept or reject Ho will be made. Wald warns that if we truncated the sequential process at the n_oth trial, we will be changing the probabilities of errors of the first and second kind by some unknown amount, but as n_o becomes larger, the effect of this change will be smaller [Ref. 6].

In his paper, Petersen suggested that for every SPR plan there exists a natural truncation point (NTP) at which the test may be stopped and neither of the two error probabilities will be exceeded, or that the error of the second kind will be insignificantly greater then ß [Ref. 5 , p 22]. In the following sections we will give a brief description of the NTP and the decision rules that will be used when it is reached.

A. THE NATURAL TRUNCATION POINT

We have seen that not every point on the sequential sampling chart represents an opportunity to accept the null hypothesis. The only points at which the null hypothesis can be accepted are the values of n at which the equation $(-h_1 + sn)$ is equal to or has just become greater than a value of X, which is the number of nonconforming items that have been found in the sample of size n. These special values of sample number n are called acceptance points and are designated as A_o, A_1, A_2, ..., where at each sample number A_i there is an unconditional probability that the test will be terminated given that the null hypothesis is true [Ref. 5].

A similar observation can be made about the opportunity to reject the null hypothesis. There are a number of points at which the number of nonconforming items needed to reject the null hypothesis increases by one. Analogous to above, these special values of sample number n are called rejection points. While these rejection points are interesting to note, we will see that they do not play a role in identifying the natural truncation points. Figure 4 shows the location of some acceptance and rejection points on a typical SPR chart.

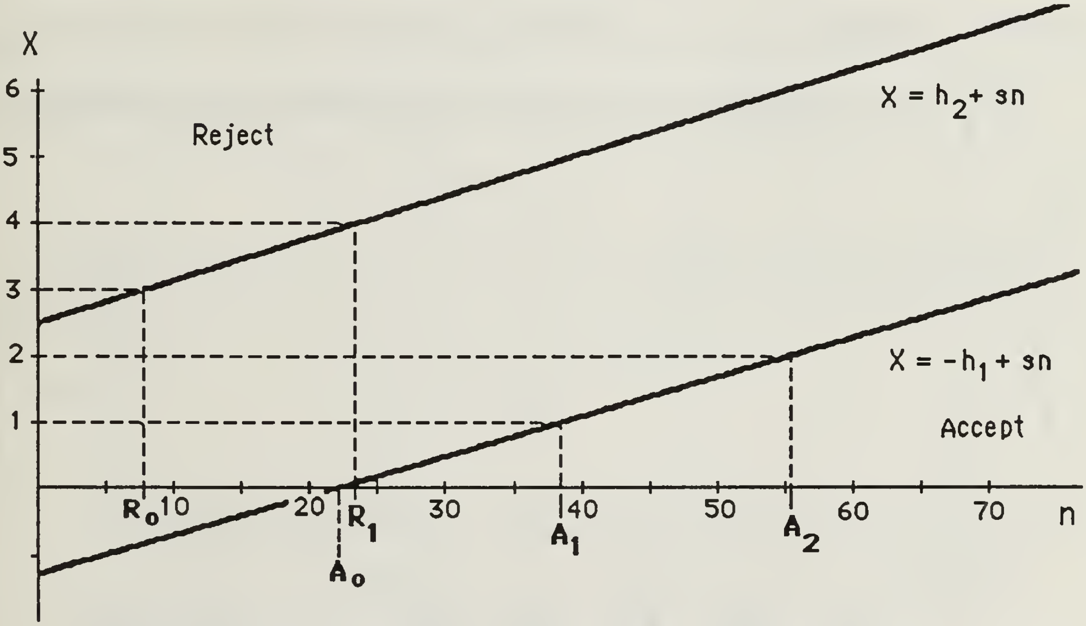


Figure 4 - SEQUENTIAL PROBABILITY RATION CHART WITH ACCEPTANCE AND REJECTION POINTS HIGHLIGHTED

If there is no truncation, the sum of the acceptance probabilities for all the values of A_i up to and including n is the probability that Ho will be accepted when at most n samples are drawn. Given that $n<A_{i+1}$, the following statements can be made about the acceptance probability when at most n samples have been drawn [Ref. 5 , p 16]:

(i) Since $-h_1 < 0$, the Pr (accept Ho | n = 0) = 0.

(ii) As n increases in size, the Pr (accept Ho | n) never decreases , and only increases at acceptance points.

(iii) For all sample numbers between A_i and A_{i+1}, the Pr(accept Ho | n) is a constant and is equal to the Pr(accept Ho | n = A_i).

Figure 4 shows how the acceptance probability accumulates for an arbitrary sampling plan when the null hypothesis is true , that is Pa = P1 [Ref. 5].

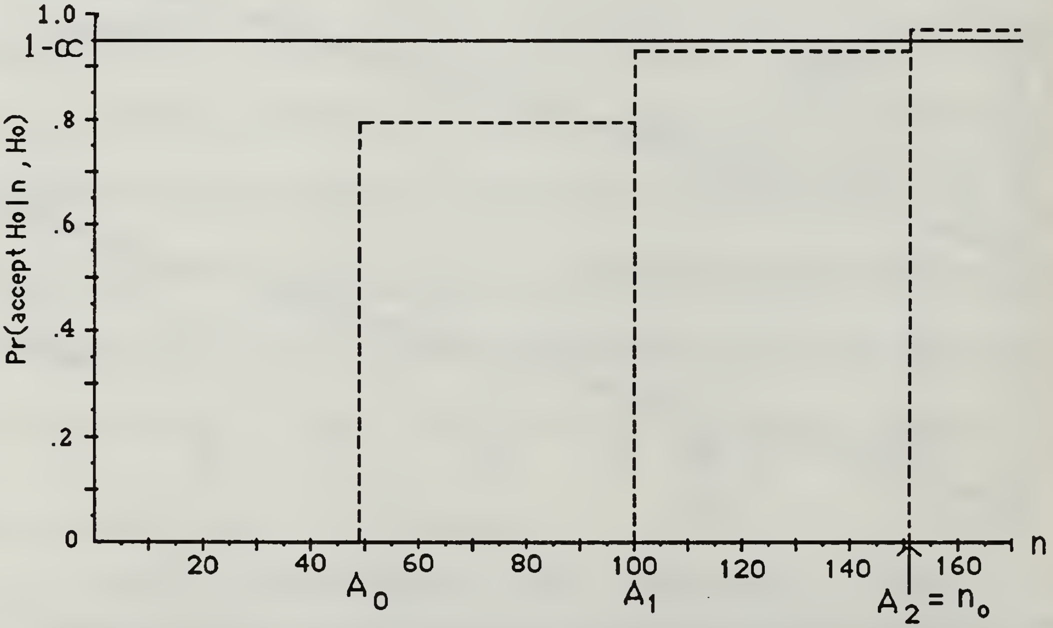


Figure 4 - ACCUMULATED ACCEPTANCE PROBABILITY

In the above example, the acceptance point A_2 is the first point where the probability of acceptance exceeds the (1- α) requirement. It is this point that is designated as this plan's natural truncation point , n_0.

At n_0 , α can an be considered as an upper bound for the probability of a Type I error. It is also possible to compute an upper bound for the probability of an error of the second kind as n approaches n_0. It has been shown that as n increases , the upper limit for the probability of a Type II error decreases , approaching ß from above [Ref. 6, p 62-64].

It is also possible to show that the sum of the acceptance probabilities, when the alternate hypothesis is true , approaches ß as n increases . In addition, it has been suggested that the true probability of a Type II error will be at most, insignificantly greater than the planned error when n is equal to the natural truncation point [Ref. 5]. Figure 5 shows how the acceptance probability may accumulate for an arbitrary sampling plan when the alternate hypothesis is true , that is Pa = P2 .

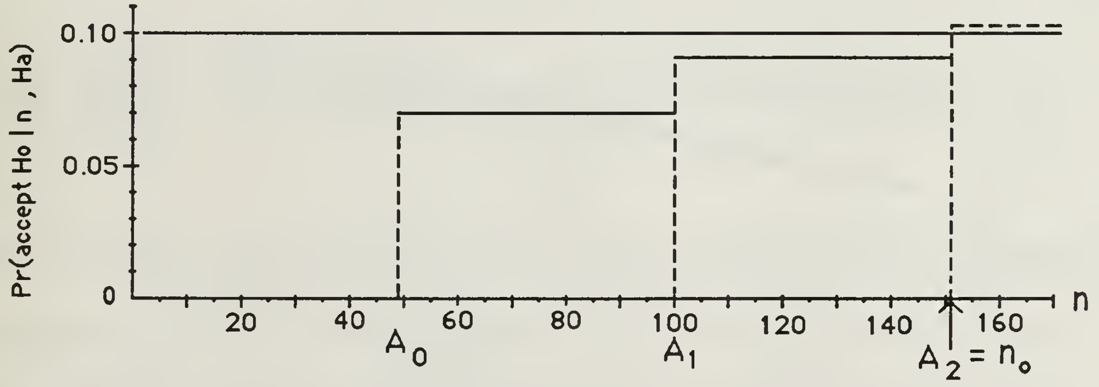


Figure 5 - ACCUMULATED ACCEPTANCE PROBABILITY WHEN THE ALTERNATE HYPOTHESIS IS TRUE

If the true probability of a Type II error does not significantly exceed ß for any sample number n, it is then not necessary to specify a special truncation point to control it.

B. ACCEPTANCE RULES

Once the natural truncation point is reached , a decision must be made as whether to accept or reject the null hypothesis. We will examine three related rules starting with the simplest and working toward slightly more complicated ones. The simplest and most conservative rule is that if no decision has been made after the last item has been sampled the null hypothesis should be rejected. By rejecting Ho, we insure that the true probability of errors of the first and second kind are as close to the desired values as possible [Ref. 6].

The second decision rule is known as the (h_1-m) rule. This rule divides the region between the upper rejection and lower acceptance lines into two parts. The line which makes this division is the line -(h_1-m)+sn where m is a positive integer such that $0 \leq m \leq (h_2 - (-h_1))$. Figure 6 shows how the region is divided when m=2.

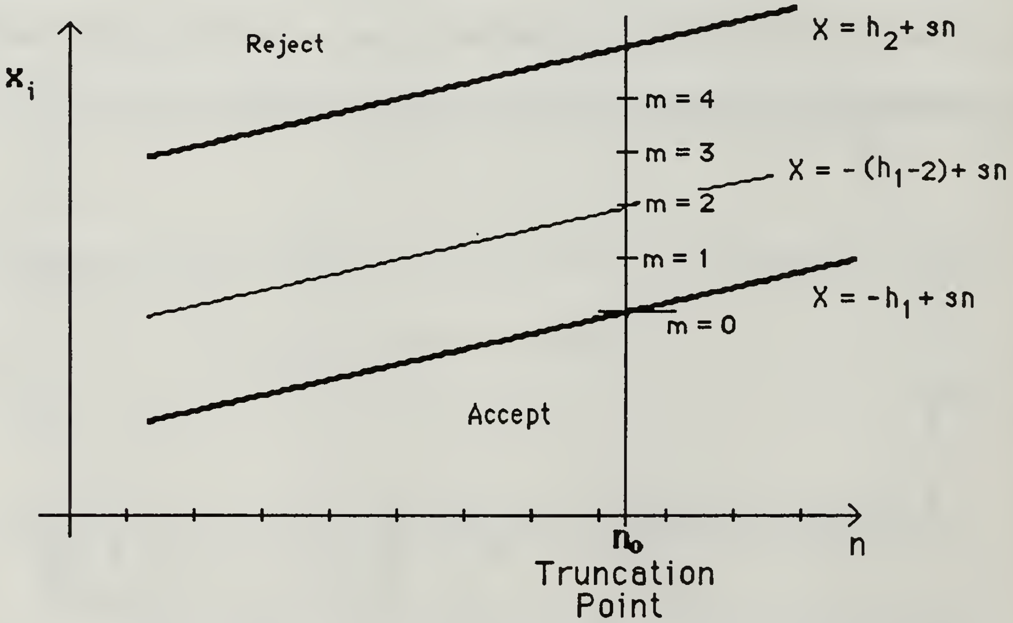


Figure 6 - AN EXAMPLE OF DIVIDING THE SAMPLING CHART USING THE (h_1 - m) ACCEPTANCE RULE.

Under this rule, if the natural truncation point is reached before a decision has been made, the null hypothesis is rejected only if the plot of the number of nonconforming items found falls on or above the $-(h_1-m)+sn$ dividing line. If the number of nonconforming items is less than $-(h_1-m)+sn$, then Ho is accepted.

The final rule that will be examined is an extension of the (h_1-m) acceptance rule and attempts to reduce the ASN of a plan by finding earlier truncation points.. Under this rule, one of the two desired errors is fixed and the other is allowed to vary in an attempt to lower the value of the truncation point. Petersen describes a sample number n_i^* which is strictly less than the NTP but at which we are assured that the probability of a Type I error will not exceed α . He also describes n_i^{**} which is the smallest sample number for which ß is not exceeded. These sample numbers can be found using the following equations:

$$n_i^* = \mathrm{int}\left[\frac{\log[1-\alpha-\Pr(\text{accept} @ Ai \mid Ho)] + Ai\,\mathrm{Log}(1-P1) - \log[\Pr(X(Ai) = i+m)]}{\mathrm{Log}(1-P1)}\right] \quad (11)$$

$$n_i^{**} = \mathrm{int}\left[A_i + \frac{\mathrm{Log}[\beta - \Pr(\text{accept} @ Ai \mid Ha)] - \mathrm{Log}[\Pr(X(Ai) = i+m)]}{\mathrm{Log}(1-P1)} + 1\right] \quad (12)$$

where $\Pr(X(A_i) = i+m)$ is the probability that the number of nonconforming items at acceptance point A_i will be less then or equal to $i+m$, given that the null hypothesis is true in Equation (11) and that the alternate hypothesis is true in Equation (12). [Ref. 5]

While the derivation of Equations (11) and (12) is fairly complicated and will not be discussed here, there are several items that should be noted about using the extended $(h_1\text{-}m)$ acceptance rule. The first item to note is that it is possible that n_i^* and n_i^{**} may not exist for every given sampling plan. Second is that if the new truncation points do exist, once n_i^* or n_i^{**} is reached, decisions are made in the same way as the non-extended $(h_1\text{-}m)$ rule, and finally while this plan fixes one error at a desired value , the amount by which the alternate error will vary from its desired value is unknown and possibly can be quite large.

Theoretically the above truncation rules should reduce the ASN of an given plan by truncating a sampling process at a specific point while maintaining the desired operating characteristic. The following section will describe the experimental procedures and computer simulation used to test the validity of the claims made above.

IV. EXPERIMENTAL PROCEDURES

In any sequential sampling procedure, there are a number of steps that must be taken before the actual sampling and testing of items begin. First, the plan's parameters must be specified. Second, the definition of conforming and nonconforming must be clarified, and finally a procedure for random sampling and testing must be determined. It is only after these three steps have been accomplished that the actual testing may begin and decisions as whether to accept or reject lots may be made. The following section will discuss these three steps in detail as well as describe the computer simulation that was used to simulate the sampling process.

A. PARAMETER SPECIFICATION

Before the beginning of any sampling process , the parameters α , β , P1, and P2 must be specified. These values are used in Equations (6) , (7) , and (8) to compute the values of h_1 , h_2 , and s which in turn are used to determine the acceptance and rejection zones on the sequential sampling chart. For the work presented in this paper, α and β were set at 0.05 and 0.10 respectively and remained constant throughout the test. These values were selected because they are typical values used in quality control. For the parameters P1 and P2 , twenty six pairs of P1 and P2 values were arbitrarily selected. The values for P1 and P2 were selected to provide a good range for testing the truncation points and stopping rules. For ease of testing , the parameters were divided into four "Plan Sets" according to the four values of P1 that were used. Table I provides a list of the parameter pairs used as well as their natural truncation point and extended rule truncation points n_i^*, and n_i^{**}. The truncation points for the extended rule were computed using the (h_1-1) extended rule for reasons that will be discussed later.

Table I - PARAMETER VALUES USED IN THE SIMULATION AND THEIR TRUNCATION POINTS.

	P1	P2	NTP	n_i^*	n_i^{**}		P1	P2	NTP	n_i^*	n_i^{**}
Plan Set 1	0.005	0.01	4605	4346	4352	Plan Set 3	0.015	0.03	1523	*	*
		0.02	702	530	579			0.04	636	*	527
		0.03	375	163	218			0.05	371	*	280
		0.04	182	71	116			0.06	233	178	186
		0.05	151	76	96			0.07	179	138	140
		0.06	129	83	83	Plan Set 4	0.020	0.03	4192	*	*
		0.07	74	71	71			0.04	1148	*	*
Plan Set 2	0.010	0.03	714	*	*			0.05	560	*	471
		0.04	350	*	281			0.06	356	273	277
		0.05	215	138	164			0.07	243	209	211
		0.06	151	82	106			0.08	174	134	140
		0.07	133	84	91			0.09	134	102	106
		0.08	90	36	57			0.10	107	79	88

* Does not exist under (h_1- 1) rule

B. DEFINITION OF CONFORMING AND NONCONFORMING

In quality control an item may be considered nonconforming if a specific measurement does not fall within required parameters. These parameters usually fall into one of two types of tests, one-way or two-way tests. A test that is one-way requires the item being inspected to meet some minimum or maximum limit. As long as this maximum or minimum is met, the item is considered good or acceptable. For example, if a chain company may require a quarter-inch chain to have a minimum breaking strength of two thousand pounds, that is what they will test for. They may not care that the actual breaking strength is twenty-six hundred pounds , all they care is that the chains meet the minimum requirements.

A two-way test has two parameters that must be met, a minimum and a maximum. The most common two-way test measures to see if a specific characteristic of an item falls between these two parameters. If the measurement falls between the minimum and maximum , the item is considered acceptable, otherwise it is rejected as unacceptable . An example of a two-way test may be a potato chip company measuring to see if a twelve ounce bag of chips is actually being filled with 12 oz. of chips. If a bag has too few ounces of chips in it the law may not allow them to call it a 12 oz. bag. If a bag has much more then 12 oz. in it , the company may be losing money. Not wanting to break the law or lose money, the company specifies a minimum and maximum weight for the number of ounces of chips that a bag should have. The company then tests bags of chips one at a time. If enough bags of chips meet the specified requirements, the machine that fill the bags is working properly. On the other hand if enough bags of chips do not meet the requirements, the company may decide that the filling machine requires adjustments or repairs.

While the above two tests are not the only type of examinations used in quality control, they are probably the most common. For the purpose of this paper, the two-way test will be used in the examination of the proposed truncation rules. In a computer simulation, a lot of 5000 numbers will be created from a normal distribution. Each number represents some attribute of the item being tested. From this lot of numbers, one item at a time will be drawn , without replacement , and compared to a set of parameters such that the probability of the items falling outside these parameters is a fixed and known. If the item falls within the specific parameters it is classified as acceptable or conforming, otherwise it is classified as a nonconforming item. Inspection continues one item at a time until a decision can be made. Details of the simulation will be discussed in the following section.

C. COMPUTER SIMULATION

A computer program was written to simulate the Wald SPR sampling process and compute the ASN and its standard deviation , the Operating Characteristic, and number of times the stopping rule was utilized for each SPR plan. The computer simulation was written in VS FORTRAN 77 and utilized the AMDAHL 5990-500 Dual-Processor mainframe computer system at the Naval Postgraduate School (NPS) Computer Center during the period of April to September 1992. The simulation also utilized the NPS Random Number Package with double precision written by P.A. Lewis and L. Uribe.

The input variables for the simulation consisted of five parameters denoted by P1 , P2 , Pa , NTP , and Za. With the exception of Za, all the parameters are the same as the ones discussed earlier in this paper. The parameter Za is the measurement parameter used in the two-way test discussed above such that the probability that an items measurement falls outside -Za and Za is Pa.

As discussed before, twenty-six pairs of parameters P1 and P2 were used in the simulation and were divided into four "Plan Sets" according to the four different values of P1 that were used. Each pair of parameters P1 and P2 within a Plan Set is called a plan since each different pair of P1 and P2 will have a different OC curve. For each plan , six to eighteen OC points, designated by Pa, were used to develop each Plan's OC and ASN curves. Table II gives an example of two plans and the values for Pa that were used in the simulation.

Table II - EXAMPLE OF THE PARAMETERS FROM PLAN SET 1

PLANS C AND D

Plan C			Plan D		
P1	P2	Pa	P1	P2	Pa
0.005	0.03	0.005	0.005	0.04	0.005
		0.007			0.007
		0.010			0.010
		0.013			0.013
		0.016			0.016
		0.019			0.019
		0.022			0.022
		0.025			0.025
		0.028			0.028
		0.030			0.031
					0.034
					0.037
					0.040

A lot of 5000 random numbers was created from a normal distribution with a mean of zero and variance of one for each value of Pa. Each number represented an arbitrary measurement of some attribute of the items being tested. From one lot at a time, items were randomly selected one item at a time without replacement and tested against the parameter Za. This selection process continued until a decision as whether to accept or reject the lot could be made. The process was then repeated 5000 times so that the final estimate of each OC point was the result of 5000 lots of 5000 items going through the SPR process.

One of the sets of rules that should be kept in mind when conducting any random sampling process is that the method by which items are selected should ensure that each member of a lot has an equal chance of being selected. It should also avoid using any method of selection that associates the selection of the item with the classification of the item being selected. Since the items in the lots came from a normal distribution a sampling order was created for each lot from a uniform[0,5000] distribution. By selecting items according to a sampling order from a different distribution, we were assured that the sampling process was as close to random as possible.

V. RESULTS AND CONCLUSIONS

When a Wald SPR sampling process is truncated its operating characteristics will vary with the location of the truncation point and the type of acceptance rule used. As the location of the truncation point becomes larger, the true values of the OC curve will approach the values of the OC curve of the nontruncated sampling plan. For this paper, the values obtained from the simulation for the OC and ASN curves will be known as the true values for a plan. These values will be compared to the values of the nontruncated SPR sampling process obtained from Equations (10) and (11). The values for the OC curve and ASN obtained from Equations (10) and (11) will be known as a plan's theoretical values.

A. NATURAL TRUNCATION POINT

As discussed earlier in this paper, the first truncation and acceptance rule examined was an automatic rejection of a lot if the sampling process reaches the NTP . The normal approximation for the two-sided test for the Difference of Two Proportions (DTP) , at a 0.05 level of significance, was used to compare the theoretical and true values of the operating characteristic at each value of Pa such that:

$$\text{Ho: } P(\text{accept} \mid \text{Pa})_{\text{true}} = P(\text{accept} \mid \text{Pa})_{\text{theo.}}$$

$$\text{Ha: } P(\text{accept} \mid \text{Pa})_{\text{true}} \neq P(\text{accept} \mid \text{Pa})_{\text{theo.}}$$

According to test statistics, there appears to be no difference between the theoretical and true values for any of the plans tested. In other words, for plans with parameter values in the range of those studied here, the NTP stopping rule provides a point at which the SPR sampling process can be truncated while maintaining the errors of the first and second kind at their desired values. The results of the above testing can be found in Tables III and IV of Appendix B under the heading m=0.

The true ASN and theoretical ASN at each value of Pa were also compared but this time a one-sided Paired Difference T test (PDT), at a 0.05 level of significance, was used. The associated hypothesis test was

$$\text{Ho: } ASN_{true} = ASN_{theo.}$$

$$\text{Ha: } ASN_{true} < ASN_{theo.}$$

which when rewritten as a PDT is

$$\text{Ho: } (ASN_{true} - ASN_{theo.}) = 0$$

$$\text{Ha: } (ASN_{true} - ASN_{theo.}) < 0 .$$

The paired difference statistic has a student's t distribution with n-1 degrees of freedom. In the above testing, n=5000 and the therefore the t statistic is essentially normal. Results of the tests using the normal distribution can be found in Tables VI, IX, XII, and XV of Appendix B and showed that in almost all of the plans , the true ASN did not show any statistical savings over the theoretical values.

There are two items worthy of noting when discussing the two comparison tests used above. The first item is that the use of a two-sided test is not entirely appropriate for the DTP test because at different areas of the OC curve the alternate hypothesis , $P(\text{accept} \mid Pa)_{\text{true}} \neq P(\text{accept} \mid Pa)_{\text{theo.}}$, may be desirable. For example, it may be desirable for the $P(\text{accept} \mid Pa \text{ is near } P1)_{\text{true}} > P(\text{accept} \mid Pa \text{ is near } P1)_{\text{theo.}}$ or $P(\text{accept} \mid Pa \text{ is near } P2)_{\text{true}} < P(\text{accept} \mid Pa \text{ is near } P2)_{\text{theo.}}$ because then the probability of either type of error would be less than required and therefore better. The second item worthy of noting is that while the differences between the true and theoretical values of a number may be statistically significant, the numerical differences may often be fairly small. When the sample size being used in the test is large, in this case 5000 , a small difference between numbers may often lead to rejection of the null hypothesis. It is therefore important to look at the actual numerical differences as well as the Z values obtained from the test statistics. These items will also hold true in the following sections.

B. THE $(h_1 - m)$ ACCEPTANCE RULE

The second truncation and acceptance rule examined was the $(h_1 - m)$ acceptance rule. As discussed before, if no decision has been made prior to reaching the NTP the lot is accepted if the number of nonconforming items found up to that point is less then $-(h_1 - m) + sn$, where n is the NTP. If the number of nonconforming items found up to that point is equal to or greater then $-(h_1 - m)+sn$ the lot is rejected. For this set of rules, the simulation was run using the same lots and sampling order used to test the first rule but was with m=1 , m=2 , m=3 , and then m=4. Using the same lots and sampling order allowed direct comparison between runs with different values of m.

The results from this set of tests can also be found in Tables XVII through XX of Appendix B and show that as m increases in value, the probability of a Type I error decreases at a decreasing rate. That is for every increase in m , the decrease in the probability of a Type I error becomes smaller and smaller and approaches zero as m approaches (h_2 - (-h_1)). On the other hand, as m increases in value, the probability of a Type II error increases. Like the decreases in the probability of a Type I error, the increases in the probability of a Type II error becomes smaller as m increases but do not approach zero as quickly as alpha. In other words, every increase in the probability of a Type II error is not necessarily accompanied by an equal decrease in the probability of a Type I error.

For all values of m>0 the Pr(accept Ho | Pa =P2) was greater than ß. The differences between the true values of the probability of a Type II error and their desired values are statistically significant in all the plans tested but as discussed above, the actual numerical differences are not always that great. It is therefore necessary to make a decision as to how much you may be willing to let the probability of a Type II error vary from its desired value of ß in order to obtain some improvement in the probability of a Type I error. Since all the true values along a given the OC curve varied similarly when m is changed , the 95% confidence interval (CI) for the probability of a Type II error and a number of other OC points was computed for the different values of m. The computed CI for the probability of a Type II error at m=1 was {0.106 , 0.118} with a maximum value of 0.128. The CI for the probability of a Type II error at m=2 was {0.12 , 0.137} with a maximum value of 0.148. Since the true values for ß and the other OC points using m=1 are generally very close to the theoretical values, the $(h_1 - 1)$ truncation and acceptance rule is recognized as a reasonable truncation and acceptance rule for a Wald SPR sampling process. Unlike the m=1 rule , the deviations of the theoretical OC values from the true OC values for the rules using $m \geq 2$ are considered too great and therefore the $(h_1 - m)$ truncation and acceptance rule for $m \geq 2$ is rejected as reasonable truncation and acceptance rule. Results of testing can be found in Tables V through XVI of Appendix B.

C. THE EXTENDED $(h_1 - m)$ ACCEPTANCE RULE

As discussed earlier , the extended $(h_1 - m)$ acceptance rule attempts to reduce the ASN of a plan by finding truncation points which are strictly less then the NTP. To do this, only one of the true errors will be guaranteed to equal the desired value. The point n_i^* holds alpha constant, for it is smallest sample number at which the probability of a Type I error is equal to alpha. The point n_i^{**} holds beta constant for it is the smallest sample number at which the probability of a Type II error is equal to beta. Since only the $(h_1 - 1)$ acceptance rule is being recognized as an acceptable truncation and acceptance rule , the values for n_i^* and n_i^{**} were computed only for the extended $(h_1 - 1)$ acceptance rule.

The performance of the extended $(h_1 - 1)$ acceptance rule in most test cases was poor. While it did a good job holding one error close to the required value , the other operating characteristics quickly deviated from their theoretical values so that by the time the alternate error was reached, its true value was usually more than twice its desired value. In addition, for most cases the extended acceptance rule provided only a small savings in ASN , and for a small number of points, the ASN for the nonextended acceptance rule was actually smaller. Results of the testing can be found in Tables XVII through XX of Appendix B.

Overall, the performance of the extended $(h_1 - 1)$ acceptance rule was poor and the rule is not recommended as a truncation and acceptance rule with one possible exception. If the difference between P1 and P2 is large and it is known that Pa is very close to P1, then using the extended acceptance rule may provide some savings in ASN. In all other cases, the nonextended m=0 or m=1 rule is recommended.

D. PROBABILITY OF IMPLEMENTING $(h_1 - 1)$ ACCEPTANCE RULE

The probability that a truncation and acceptance rule will need to be implimented depends greatly on the true value of the actual proportion of noncomforming items in the lot, Pa , which is itself a unknown. Even though the actual probability of implimenting a truncation and acceptance rule is unknown, it is possible to get a rough upper limit for it by using some known parameters such as P1 , P2 , and s.

We have seen that as the difference between P1 and P2 increases, the ASN of a plan decreases and that the maximum value for the ASN of a plan occurs when Pa is approximately equal to s. It is when Pa is approximately equal to s that we have the greatest probability of reaching a truncation point and therefore a need to impliment a truncation and acceptance rule. Using this knowlege and the computed probabilities of implimenting a truncation rule found from the simulation , a number of models were fitted to the values P1 , P2 , and s using the SAS stepwise logistic regression [Ref. 7] resulting in the following fitted model

$$\widehat{Pr}(\text{reaching NTP}) = \frac{\text{Exp}[-2.3415+0.294113\text{Ln}(P2-P1)-0.158121\text{Ln}(s)]}{1+\text{Exp}[-2.3415+0.294113\text{Ln}(P2-P1)-0.158121\text{Ln}(s)]} \quad .(13)$$

The Chi-square test for goodness-of-fit for the Equation (13) resulted in p-value , 0.0001 and testing of the equation against the actual results from the simulation proved it to be quite accurate over the simulated range. Results of this testing can be seen in Table XXI of Appendix E. Further testing showed that it provided reasonable predictions for parameter sets outside of the simulation range. A 95% confidence limit for the maximum probability was also computed and found to be approximately [0.101 , 0.138].

One point to remember is that this equation only provides a rough upper limit for the probability of implimenting a truncation rule and that if Pa is closer to P1 or P2, the actual probability will most likely be quite a bit smaller. graphs of the actual probabilities for each plan can be found in Appendix E, Figures 46 through 51.

E. AREAS FOR FURTHER STUDY

This paper studied the curtailed Wald SPR sampling plan using only one set of values for alpha and beta. A further area of studied might be on how changing the values of alpha and beta impacts on these test results. It is hoped that the work provided in this paper will be beneficial to those interested in sequential sampling and quality control.

APPENDIX A

Computer Program Wald2

```
      PROGRAM WALD2
C
C  THE FOLLOWING PROGRAM SIMULATES THE USE OF A WALD
C  SEQUENTIAL  SAMPLING PLAN AND EVALUATES THE MEAN AND
C  VARIANCE OF THE AVERAGE NUMBER OF ITEMS SAMPLED FOR A GIVEN
C  PROBABILITY OF A NONCONFORMING ITEM.
C  ie.     Pr(item is nonconforming) = Pa
C
C  THE PROGRAM CREATES LOTS OF 5000 ITEMS FROM WHICH ONE ITEM AT
C  A TIME WILL BE RANDOMLY SAMPLED WITHOUT REPLACEMENT AND
C  COMPARED TO A SPECIFIED ITEM REQUIREMENT. THE NUMBER OF
C  NONCONFORMING ITEMS WILL BE COUNTED UNTIL A DECISION TO
C  ACCEPT OR REJECT THE LOT CAN BE MADE.  THE PROCESS WILL BE
C  REPEATED FOR DIFFERENT STOPPING RULES AS DISCUSSED IN THE
C THESIS PAPER.
C
    INCLUDE 'SEQDAT DEF'
    INCLUDE 'LOTSEED DEF'
    INCLUDE 'COUNTER DEF'
    INCLUDE 'STATS DEF'
C
   INTEGER I
   SEED1(1) =  #######
   SEED2(1) = #######
C
C  STARTING SEED VALUES CAN BE CHANGED AT ANY TIME AND WILL
C  CHANGE AUTOMATICALLY EVERY TIME A NEW LOT IS CREATED
C
C//////////////////////////STARTPLANSET1///////////////////////////////
C
   DO  10  I = 1 , 5
C
C  THE FOLLOWING SUBROUTINE  INITIALIZES VARIABLE THAT WILL BE
C  USED IN THE SIMULATION
C
     CALL INITOC1
C
C  THE FOLLOWING SUBROUTINE CREATES THE SPECIFICS OF EACH PLAN
C
     CALL SPECS
```

```
C
C  THE FOLLOWING SECTION STARTS THE SIMULATION FOR PLAN SET 1
C
       DO 20 N = 1 , 82
           DO 30 R = 1 , 1000
C
C  THE FOLLOWING  FORMS THE LOTS AND SAMPLING SCHEDULE
C
             CALL FORMLOT
C
C THE FOLLOWING SUBPROGRAM INSPECTS EACH LOT
C
            CALL OCINSP
C
30        CONTINUE
20     CONTINUE
C
C THE FOLLOWING SUBPROGRAMS COMPUTE THE DESIRED STATISTICS
C  AND DISPLAYS THEM
C
       CALL STATCOMP
       CALL DISPLAY1
10 CONTINUE
C
C/////////////////////////////ENDPART1//////////////////////////////////
C
C/////////////////////////////STARTPLANSET2///////////////////////////////////
C
     DO  40  I = 1 , 5
C
C  THE FOLLOWING SUBROUTINE  INITIALIZES VARIABLE THAT WILL BE
C  USED IN THE SIMULATION
C
      CALL INITOC2
C
C  THE FOLLOWING SUBROUTINE CREATES THE SPECIFICS OF EACH PLAN
C
      CALL SPECS
C
C  THE FOLLOWING SECTION STARTS THE SIMULATION FOR PLAN SET 1
C
       DO 50 N = 1 , 82
           DO 60 R = 1 , 1000
C
C  THE FOLLOWING  FORMS THE LOTS AND SAMPLING SCHEDULE
C
```

```
         CALL FORMLOT
C
C THE FOLLOWING SUBPROGRAM INSPECTS EACH LOT
C
        CALL OCINSP
C
30      CONTINUE
20    CONTINUE
C
C THE FOLLOWING SUBPROGRAMS COMPUTE THE DESIRED STATISTICS
C  AND DISPLAYS THEM
C
     CALL STATCOMP
     CALL DISPLAY2
10 CONTINUE
C
C/////////////////////////////ENDPART2//////////////////////////////////
C

*** SAME AS ABOVE FOR PLAN SETS 3 AND 4 ********

C-----------------------------------------------------------------------
    SUBROUTINE INITOC1
C
     INCLUDE 'SEQDAT2 DEF'
     INCLUDE 'STATS2 DEF'
     INCLUDE ' LOTTS DEF'
C
    INTEGER I , J
C
    DO  10 I = 1 , 82
        P1 = 0.0
        P2 = 0.0
        Pa = 0.0
        Za(I)  = 0.0
        NTP(I) = 0
        DO 20 J = 1 , 1000
            NINSP( I , J ) = 0
            RULE( I , J ) = .FALSE.
            REJECT2( I , J ) = .FALSE.
20      CONTINUE
10     CONTINUE
     OPEN( 13 , FILE = '/OCPLAN1 DATA')
      WRITE(* , * ) "     "
     WRITE(* , * ) "    P1     P2     Pa     NTP    "
     DO 30 I = 1 , 82
```

```
          READ( 13 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
          WRITE( 15 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
15        FORMAT(1X , F5.3 , 2X , F4.2 , 2X , F5.3 , 2X , I4)
30     CONTINUE
       CLOSE(13)
        RETURN
       END
C-----------------------------------------------------------------------------------------------------
     SUBROUTINE INITOC2
C
      INCLUDE 'SEQDAT2 DEF'
      INCLUDE 'STATS2 DEF'
      INCLUDE ' LOTTS DEF'
C
     INTEGER I , J
C
     DO  10 I = 1 , 82
         P1 = 0.0
         P2 = 0.0
         Pa = 0.0
         Za(I)  = 0.0
         NTP(I) = 0
         DO 20 J = 1 , 1000
             NINSP( I , J ) = 0
             RULE( I , J ) = .FALSE.
             REJECT2( I , J ) = .FALSE.
20       CONTINUE
10     CONTINUE
       OPEN( 13 , FILE = '/OCPLAN2 DATA')
        WRITE(* , * ) "     "
       WRITE(* , * ) "    P1      P2      Pa      NTP    "
      DO 30 I = 1 , 82
          READ( 13 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
          WRITE( 15 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
15        FORMAT(1X , F5.3 , 2X , F4.2 , 2X , F5.3 , 2X , I4)
30     CONTINUE
       CLOSE(13)
        RETURN
       END
C-----------------------------------------------------------------------------------------------------
****** SAME FOR PLAN SETS 3 AND 4 ************
C-----------------------------------------------------------------------------------------------------
      SUBROUTINE SPECS
C
     INCLUDE 'SEQDAT2 DEF'
     INCLUDE 'PLAN2 DEF'
```

```
C
C THE SUBROUTINE COMPUTE  h1 , h2 , and s FOR EACH PLAN
C
     INTEGER I
     REAL  DENOM
C
     DO I = 1 , 82
         DENOM = LOG(  (  P2(I)*(1.0-P1(I) )  )  / ( P1(I)*( 1.0-P2(I) )  )  )
          H1(I) = 2.25129 / DENOM
          H2(I) = 2.89037 / DENOM
          S(I) = LOG9  (1.0 - P1(I) ) / ( 1.0 - P2(I) ) ) / DENOM
10     CONTINUE
        RETURN
       END
C--------------------------------------------------------------------------------------------------------
         SUBROUTINE FORMLOT
C
C  THIS SUBPROGRAM USES THE NAVAL POSTGRADUATE SCHOOLS
C  RANDOM NUMBER GENERATOR TO CREATE A LOT OF 5000 ITEMS FROM
C  A NORMAL DIST. AND THE RANDOM ORDER IN WHICH THE WILL BE
C  SAMPLED
C
         INCLUDE 'LOTTS DEF'
         INCLUDE 'LOTSEED DEF'
         INCLUDE 'COUNTER DEF'
C
        INTEGER I
C
        CALL SNOR( SEED1(1) , LOT , 5000 , 2 , 0 )
        CALL SLINT( SEED2(1) , RANHLD , 5000 , 2)
C
       D0 10 I = 1 , 5000
           SAMPNUM(I) = NINT(RANHLD(I) * 0.00000232)
10     CONTINUE
        RETURN
       END
C--------------------------------------------------------------------------------------------------------
        SUBROUTINE OCINSP
C
C  THIS SUBROUTINE INSPECTS THE ITEMS IN THE LOTS AND COLLECTS THE
C  DATA THAT WILL BE USED TO DETERMINE THE OC CURVE AND ASN.
C
        INCLUDE 'SEQDAT2 DEF'
        INCLUDE 'STATS2 DEF'
        INCLUDE 'COUNTER DEF'
        INCLUDE 'LOTTS DEF'
        INCLUDE 'PLAN2 DEF'
C
        INTEGER SUMX , C , M
        REAL UPX , LOWX , ITEM
        LOGICAL   STPINSP
C
        ITEM = 0.0
        SUMX = 0
        C = 0
        M = 1
C       NOTE THAT THIS IS THE M IN THE H1-M RULE , M=0 MEANS REJECT AT
C       NTP
        STPINSP = .FALSE.
C
99      IF( .NOT.STPINSP ) THEN
           C = C+ 1
            ITEM = ABS( LOT ( SAMPNUM (C) ) )
            IF (ITEM .GT. Za (N) ) THEN
                SUMX = SUMX + 1
            ENDIF
            UPX = H2(N) + C * S(N)
            LOWX =  C * S(N) - H1(N)
C
            IF( C .GE. NTP(N) ) THEN
               RULE( N , R ) = .TRUE.
               STPINSP = .TRUE.
               NINSP( N , R ) = C
               IF ( SUMX .GT. LOWX + M ) THEM
                   REJECT2(N , R ) = .TRUE.
               ENDIF
            ELSEIF( SUMX . GE. UPX) THEN
               REJECT2(N , R ) = .TRUE.
               STPINSP = .TRUE.
               NINSP( N , R ) = C
             ELSEIF( SUMX . LE. LOWX) THEN
               STPINSP = .TRUE.
               NINSP( N , R ) = C
            ENDIF
            GOTO 99
        ENDIF
         RETURN
        END
C-------------------------------------------------------------------------------------------------
        SUBROUTINE STATCOMP
C
C  THIS SUBROUTINE COMPUTES THE DESIRED STATISTICS SUCH AS ASN
```

```
C
        INCLUDE 'SEQDAT2 DEF'
        INCLUDE 'STATS2 DEF'
        INCLUDE 'PLAN2 DEF'
C
        INTEGER I , J , SUMINSP(82)
        REAL  EXSQ(82)
C
        DO 10 I = 1 , 82
            SUNINSP (I) = 0
           EXSQ(I) = 0.0
           NREJ2(I) = 0
           NSTP2(I) = 0
           CI2(I) = 0.0
           DO 20 J = 1 , 1000
                SUMINSP(I) = SUMINSP(I) + NINSP( I , J )
               IF(RULE( I, J ) ) THEN
                  NSTP2(I) = NSTP2(I) + 1
               ENDIF
20          CONTINUE
            AVEN2(I) = SUMINSP(I) / 1000.0
           DO 25 J = 1 , 1000
               EXSQ(I) = EXSQ(I) + ( ( NINSP(I , J) - AVEN2(I) ) **2)
25         CONTINUE
           SAVEN2(I) = SQRT( EXSQ(I) / 1000.0 )
           CI2 = ( SAVEN2(I) / 100.0 ) * 1.95996
           UPCI2(I) = AVEN2(I) + CI2(I)
           LOWCI2(I) = AVEN2(I) - CI2(I)
10      CONTINUE
C
         RETURN
        END
C---------------------------------------------------------------------------------------------------------
       SUBROUTINE DISPLAY1
C
C  THIS SUBROUTINE DISPLAYS THE STATISTICS AND WRITES THEM INTO
C  A FILE
C
       INCLUDE  'STATS2 DEF'
       INCLUDE  'SEQDAT2 DEF'
C
       INTEGER I
C
     IF( I .EQ. 1) THEN
         OPEN(31 , FILE= '/OCOUT1A DATA')
     IF( I .EQ. 2) THEN
```

```
        OPEN(32 , FILE= '/OCOUT1B  DATA')
     IF( I .EQ. 3) THEN
        OPEN(33 , FILE= '/OCOUT1C DATA')
     IF( I .EQ. 4) THEN
        OPEN(34 , FILE= '/OCOUT1D  DATA')
     ELSE
        OPEN(35 , FILE = '/OCOUT1E  DATA')
     ENDIF
C
     DO 10 I = 1 , 82
         WRITE( * , * ) '-----------------------------------------------------------------'
         WRITE( * , * ) '                SEQUENTIAL PLAN                         '
         WRITE( * , *) '        P1           P2           Pa           NTP         '
         WRITE( *, 11) P1(I) , P2(I) , Pa(I) , NTP(I)
11       FORMAT ( 4X , F5.3 , 4X , F5.3 , 5X , F5.3 , 7X  , I4 )
          WRITE( *,13) AVEN2(I)
13        FORMAT( 1X , 'MEAN NUMBER INSPECTED.  ' , 2X , F10.3)
          WRITE( *,15) SAVEN2(I)
15        FORMAT( 1X , 'STD DEV OF NUM INSP  ' , 2X , F10.3)
         WRITE(* , 17)  LOWCI2(I) , UPCI2(I)
17        FORMAT(1X , '95% CI ON MEAN (', 1X , F10.3 , 1X , ',' 1X , F10.3 , 1X , ')' )
          WRITE(*.19)  NREJ2(I)
19        FORMAT(1X , 'NUMBER OF LOTS REJECTED ', 2X , F8.1)
          WRITE(*,20)  NSTP2(I)
20        FORMAT(1X , '# OF TIMES STOPPING RULE WAS USED' , 2X , F8.1)
C
         IF (I .EQ. 1 ) THEN
            WRITE(31 , 21 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
      &NSTP2(I)
21          FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
         IF (I .EQ. 1 ) THEN
            WRITE(31 , 22 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
       &NSTP2(I)
22          FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
         IF (I .EQ. 1 ) THEN
            WRITE(31 , 23 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
       &NSTP2(I)
23          FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
         IF (I .EQ. 1 ) THEN
            WRITE(31 , 24 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
       &NSTP2(I)
24          FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
         ELSE
            WRITE(31 , 25 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
       &NSTP2(I)
25          FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
```

```
        ENDIF
C
10    CONTINUE
      CLOSE(31)
      CLOSE(32)
      CLOSE(33)
      CLOSE(34)
      CLOSE(35)
     RETURN
    END
C-----------------------------------------------------------------------------------------------
**** SAME TYPE OF SUBROUTINE FOR DISPLAYING PLAN SETS 2 , 3, AND 4
       JUST NEED TO CHANGE THE OUTPUT FILES ******
C-----------------------------------------------------------------------------------------------
```

APPENDIX B

Table III - OC CURVE DATA FOR PLAN SET I

$(h_1\text{-}m)$ ACCEPTANCE RULE FOR m={ 0, 1, 2 }

P1	P2	Pa	Accept @ Pa P'	m = 0 % Lots Accepted P''	Z Statistic	P'=P'' P'≠P''	m = 1 % Lots Accepted P''	Z Statistic	P'=P'' P'≠P''	m = 2 % Lots Accepted P''	Z Statistic	P'=P'' P'≠P''
0.005	0.01	0.005	0.950	0.907	-5.28		0.909	-5.06		0.915	-4.41	
		0.006	0.820	0.752	-5.90		0.754	-5.76		0.752	-5.17	
		0.007	0.624	0.539	-5.90		0.569	-3.55		0.579	-2.01	
		0.008	0.375	0.402	1.76	acc.	0.404	1.88	acc.	0.410	2.27	
		0.009	0.203	0.209	0.39	acc.	0.209	0.47	acc.	0.210	0.55	acc.
		0.010	0.100	0.118	1.83	acc.	0.119	1.02	acc.	0.120	2.02	
0.005	0.02	0.006	0.909	0.905	-0.44	acc.	0.928	1.85	acc.	0.950	2.71	
		0.008	0.785	0.761	-2.59		0.782	-0.23	acc.	0.810	1.82	acc.
		0.010	0.637	0.637	0.20	acc.	0.658	3.41		0.658	6.18	
		0.012	0.467	0.482	-0.32	acc.	0.497	1.02	acc.	0.534	4.24	
		0.014	0.350	0.347	1.14	acc.	0.373	3.08		0.403	4.79	
		0.016	0.224	0.251	2.01		0.258	3.09		0.250	4.78	
		0.018	0.148	0.183	1.33	acc.	0.175	2.32		0.193	4.79	
		0.020	0.100	0.113	1.33	acc.	0.122	2.21		0.193	3.25	
0.005	0.03	0.005	0.950	0.951	0.15	acc.	0.958	3.00	acc.	0.959	1.37	acc.
		0.007	0.892	0.915	2.46		0.924	3.00		0.959	3.88	
		0.010	0.757	0.748	-1.55	acc.	0.858	1.44	acc.	0.801	2.51	
		0.013	0.609	0.605	-0.26	acc.	0.650	2.68		0.685	5.93	
		0.016	0.467	0.489	1.39	acc.	0.515	3.04		0.537	4.43	
		0.019	0.341	0.380	2.57		0.405	4.18		0.427	5.59	
		0.022	0.246	0.273	2.02		0.288	3.08		0.305	4.25	
		0.025	0.179	0.189	0.82	acc.	0.213	2.71		0.226	3.79	
		0.028	0.128	0.132	0.38	acc.	0.141	1.20	acc.	0.151	2.19	
		0.030	0.100	0.118	1.83	acc.	0.120	2.02		0.132	3.16	
0.005	0.04	0.005	0.950	0.952	0.29	acc.	0.977	4.65		0.980	5.18	
		0.007	0.905	0.900	-0.53	acc.	0.931	3.00		0.937	3.76	
		0.010	0.812	0.798	-1.12	acc.	0.861	4.19		0.875	5.48	
		0.013	0.706	0.698	-0.80	acc.	0.781	5.43		0.808	7.52	
		0.016	0.594	0.534	-3.03		0.681	4.38		0.697	6.81	
		0.019	0.482	0.509	1.88	acc.	0.610	7.80		0.645	8.77	
		0.022	0.389	0.369	-1.05	acc.	0.471	4.59		0.514	7.39	
		0.025	0.319	0.314	-0.34	acc.	0.386	4.43		0.414	6.23	
		0.028	0.254	0.257	0.22	acc.	0.333	5.49		0.370	7.02	
		0.031	0.199	0.200	0.08	acc.	0.250	3.87		0.285	6.35	
		0.034	0.159	0.152	-0.61	acc.	0.195	2.88		0.217	4.09	
		0.037	0.125	0.123	-0.19	acc.	0.149	2.21		0.169	3.03	
		0.040	0.100	0.103	0.31	acc.	0.128	2.79		0.143	4.18	
0.005	0.05	0.005	0.950	0.973	3.78		0.981	6.37		0.983	5.80	
		0.008	0.881	0.906	1.57	acc.	0.933	4.89		0.936	5.06	
		0.011	0.812	0.828	1.32	acc.	0.873	5.20		0.881	5.25	

Table III - OC CURVE DATA FOR PLAN SET I

(h1-m) ACCEPTANCE RULE FOR m={ 0, 1, 2 }

(CONTINUED)

		0.014		0.725		0.699	-1.82	acc.	0.774	4.69		0.782	4.18	
		0.017		0.640		0.699	-0.13	acc.	0.708	4.59		0.723	5.63	
		0.020		0.652		0.699	0.18	acc.	0.644	2.87		0.653	5.63	
		0.023		0.473		0.605	2.02		0.574	5.65		0.582	5.63	
		0.026		0.396		0.434	5.86		0.491	5.65		0.518	7.43	
		0.029		0.330		0.389	1.83	acc.	0.413	5.65		0.428	2.89	
		0.032		0.395		0.373	-0.70	acc.	0.388	5.86		0.340	3.54	
		0.035		0.241		0.388	1.37	acc.	0.308	4.41		0.315	2.89	
		0.038		0.203		0.248	5.86		0.288	5.86		0.290	2.89	
		0.041		0.171		0.388	1.24	acc.	0.214	5.86		0.230	4.68	
		0.044		0.142		0.388	0.37	acc.	0.127	2.18		0.178	3.18	
		0.047		0.119		0.388	1.89	acc.	0.157	5.86		0.183	4.09	
		0.050		0.100		0.087	-1.41	acc.	0.101	0.11	acc.	0.183	0.31	acc.
0.005	0.06	0.005		0.950		0.980	7.42		0.988	5.65		0.998	6.43	
		0.009		0.878		0.812	5.86		0.931	5.70		0.931	5.70	
		0.015		0.786		0.812	5.86		0.857	5.86		0.858	2.89	
		0.017		0.695		0.718	1.48	acc.	0.758	4.41		0.790	5.63	
		0.021		0.606		0.388	5.80		0.718	7.73		0.717	7.80	
		0.025		0.596		0.542	0.72		0.594	5.05		0.390	6.18	
		0.029		0.423		0.388	5.86		0.502	5.86		0.590	2.89	
		0.033		0.252		0.388	5.86		0.388	5.86		0.442	2.89	
		0.037		0.295		0.331	1.83	acc	0.388	5.86		0.373	5.37	
		0.041		0.245		0.380	0.37	acc.	0.380	2.87		0.358	2.89	
		0.045		0.203		0.312	0.78	acc.	0.388	2.74		0.241	2.89	
		0.049		0.167		0.388	-0.82	acc.	0.157	1.25	acc.	0.183	1.33	acc.
		0.053		0.167		0.388	-1.22	acc.	0.135	-0.18	acc.	0.183	5.09	acc.
		0.057		0.119		0.388	0.37	acc.	0.127	2.90	acc.	0.138	2.89	
		0.060		0.100		0.124	2.41		0.127	5.86		0.138	2.79	
0.005	0.07	0.005		0.330		0.389	1.37	acc.	0.984	6.02		0.984	6.02	
		0.010		0.868		0.871	0.47	acc.	0.984	7.66		0.958	7.78	
		0.016		0.767		0.789	1.52	acc.	0.873	8.72		0.875	8.91	
		0.020		0.695		0.388	-0.47	acc.	0.760	6.37		0.761	6.44	
		0.025		0.561		0.577	1.52	acc.	0.707	0.58		0.709	8.72	
		0.030		0.464		0.388	1.52	acc.	0.617	8.72		0.626	10.29	
		0.035		0.387		0.380	0.18	acc.	0.594	7.44		0.608	7.70	
		0.040		0.321		0.297	-1.64	acc.	0.594	5.86		0.408	8.72	
		0.045		0.330		0.239	-2.18		0.380	5.86		0.335	2.89	
		0.050		0.219		0.211	-0.82	acc.	0.268	4.81		0.290	5.09	
		0.055		0.191		0.189	0.66	acc.	0.243	4.80		0.240	5.18	
		0.060		0.148		0.153	0.44	acc.	0.217	5.65		0.222	6.93	
		0.065		0.121		0.110	-1.39	acc.	0.165	3.12		0.157	3.29	
		0.070		0.100		0.116	1.83	acc.	0.141	3.98		0.145	4.24	

Table IV - OC CURVE DATA FOR PLAN SET II

(h1-m) ACCEPTANCE RULE FOR m={ 0, 1, 2 }

						m = 0			m = 1			m = 2		
				Accept		% Lots	Z	P'=P''	% Lots	Z	P'=P''	% Lots	Z	P'=P''
P1	P2	Pa		@ Pa		Accepted	Statistic	P'≠P''	Accepted	Statistic	P'≠P''	Accepted	Statistic	P'≠P''
				P'		P'			P'			P'		
0.01	0.03	0.010		0.950		0.963	1.05	acc.	0.967	2.70		0.971	3.31	
		0.010		0.895		0.906	1.10	acc.	0.917	2.35		0.963	3.31	
		0.010		0.812		0.829	2.25		0.866	2.35		0.871	3.31	
		0.016		0.706		0.714	0.38	acc.	0.722	1.83	acc.	0.755	3.28	
		0.018		0.581		0.583	-1.16	acc.	0.606	2.35	acc.	0.652	1.40	acc.
		0.020		0.448		0.454	0.38	acc.	0.476	1.71	acc.	0.497	3.10	
		0.022		0.352		0.311	-2.76		0.321	-1.40	acc.	0.352	0.73	acc.
		0.024		0.250		0.274	1.73	acc.	0.284	2.43		0.301	4.01	
		0.026		0.188		0.162	-1.57	acc.	0.174	-1.15	acc.	0.187	-0.08	acc.
		0.028		0.188		0.162	1.17	acc.	0.190	1.83	acc.	0.163	2.12	
		0.025		0.100		0.119	1.82	acc.	0.190	0.61		0.124	4.00	
0.01	0.04	0.010		0.950		0.966	1.21	acc.	0.966	2.35		0.979	4.00	
		0.016		0.894		0.891	-0.29	acc.	0.967	1.83	acc.	0.909	4.00	
		0.016		0.790		0.768	-1.08	acc.	0.800	0.76	acc.	0.822	4.00	
		0.019		0.683		0.643	-2.08		0.666	0.61	acc.	0.731	3.28	
		0.022		0.649		0.639	-1.27	acc.	0.666	1.08	acc.	0.622	4.00	
		0.025		0.436		0.397	-2.50		0.435	-0.06	acc.	0.474	2.41	
		0.028		0.325		0.331	0.30	acc.	0.366	2.07		0.402	4.00	
		0.031		0.250		0.257	0.57	acc.	0.283	2.35		0.309	4.00	
		0.034		0.188		0.179	-0.40	acc.	0.190	1.12	acc.	0.227	3.28	
		0.037		0.137		0.130	-0.29	acc.	0.147	0.61	acc.	0.164	3.28	
		0.040		0.100		0.090	-1.08	acc.	0.097	-0.32	acc.	0.134	0.42	
0.01	0.05	0.010		0.950		0.939	-1.01	acc.	0.966	0.60	acc.	0.963	3.28	
		0.013		0.850		0.831	-2.50	acc.	0.867	3.04		0.937	3.28	
		0.019		0.828		0.847	1.03	acc.	0.866	5.24		0.909	7.50	
		0.019		0.743		0.741	-0.14	acc.	0.791	0.69		0.826	4.00	
		0.025		0.654		0.666	0.80	acc.	0.733	5.42		0.768	7.00	
		0.025		0.559		0.572	0.57	acc.	0.190	4.32		0.626	4.00	
		0.028		0.467		0.466	-0.57	acc.	0.510	2.72		0.562	3.01	
		0.031		0.467		0.375	-0.39	acc.	0.424	2.38		0.620	4.07	
		0.034		0.303		0.300	-0.21	acc.	0.337	2.30		0.374	4.74	
		0.037		0.254		0.253	-0.07	acc.	0.289	0.69		0.320	3.01	
		0.040		0.203		0.192	-0.39	acc.	0.217	1.09	acc.	0.247	4.00	
		0.040		0.177		0.162	-1.26	acc.	0.190	0.60	acc.	0.210	2.64	
		0.044		0.154		0.144	-0.39	acc.	0.157	0.26	acc.	0.183	4.00	
		0.047		0.125		0.131	0.57	acc.	0.190	2.72		0.160	4.00	
		0.050		0.100		0.162	2.41		0.190	3.44		0.146	4.00	
0.01	0.05	0.010		0.990		0.966	0.74	acc.	0.974	3.07		0.979	4.00	
		0.016		0.899		0.947	3.07	acc.	0.966	0.69		0.963	7.00	
		0.018		0.855		0.847	-0.71	acc.	0.893	3.62		0.910	3.20	

Table IV - OC CURVE DATA FOR PLAN SET I

(h_1-m) ACCEPTANCE RULE FOR m={ 0, 1, 2 }

(CONTINUED)

		0.015		0.786		0.762	-1.81	acc.	0.819	2.62		0.844	4.72	
		0.022		0.711		0.655	-1.11	acc.	0.752	2.44		0.795	6.16	
		0.025		0.643		0.613	-1.34	acc.	0.675	2.13		0.721	5.80	
		0.028		0.565		0.544	-1.34	acc.	0.526	2.83		0.662	5.80	
		0.031		0.486		0.434	-2.20		0.613	2.83	acc.	0.586	4.67	
		0.035		0.402		0.367	-2.28		0.428	1.73	acc.	0.480	4.67	
		0.040		0.309		0.303	-0.07	acc.	0.353	2.83		0.398	5.76	
		0.040		0.264		0.248	-1.16	acc.	0.353	1.84	acc.	0.368	5.76	
		0.040		0.224		0.613	-0.69	acc.	0.250	1.84	acc.	0.287	4.67	
		0.040		0.185		0.186	-0.25	acc.	0.213	2.22		0.247	5.76	
		0.051		0.167		0.170	0.63	acc.	0.186	2.83		0.218	2.80	
		0.054		0.162		0.130	-1.41	acc.	0.160	2.72	acc.	0.176	2.84	
		0.057		0.118		0.105	-1.40	acc.	0.114	-0.48	acc.	0.135	1.82	acc.
		0.060		0.162		0.075	-2.28		0.079	-2.33		0.093	-0.76	acc.
0.01	0.07	0.010		0.950		0.855	0.74	acc.	0.536	2.22		0.968	2.80	
		0.015		0.486		0.303	1.74	acc.	0.824	2.80		0.828	4.67	
		0.020		0.786		0.613	2.54		0.367	2.83		0.875	7.80	
		0.025		0.700		0.367	-0.21	acc.	0.752	2.83		0.768	4.67	
		0.040		0.387		0.577	-0.04	acc.	0.643	2.83		0.671	5.80	
		0.035		0.486		0.478	-0.44	acc.	0.536	2.13		0.570	5.80	
		0.040		0.393		0.303	0.00	acc.	0.447	2.83		0.471	4.88	
		0.040		0.309		0.303	-0.21	acc.	0.530	2.83		0.368	3.84	
		0.050		0.250		0.544	-0.44	acc.	0.270	1.84	acc.	0.288	2.71	
		0.055		0.162		0.186	-1.37	acc.	0.213	2.83	acc.	0.228	2.80	
		0.060		0.162		0.186	-1.40	acc.	0.146	0.51	acc.	0.187	2.80	
		0.065		0.100		0.118	-0.77	acc.	0.130	0.28	acc.	0.146	1.67	acc.
		0.070		0.100		0.186	0.06	acc.	0.111	1.13	acc.	0.119	1.02	acc.
0.01	0.08	0.010		0.800		0.633	0.00	acc.	0.873	3.66		0.873	3.07	
		0.010		0.898		0.831	-1.10	acc.	0.821	3.66		0.828	6.63	
		0.020		0.808		0.788	-1.40	acc.	0.855	3.07		0.873	6.05	
		0.025		0.727		0.708	-0.14	acc.	0.811	3.60		0.860	7.84	
		0.020		0.613		0.633	1.31	acc.	0.714	3.66		0.735	6.63	
		0.035		0.543		0.544	0.06	acc.	0.613	4.48		0.648	6.63	
		0.040		0.454		0.430	-1.40	acc.	0.524	4.48		0.646	8.45	
		0.040		0.387		0.393	0.06	acc.	0.480	5.03		0.514	3.07	
		0.055		0.318		0.292	-1.40	acc.	0.380	3.66		0.428	7.13	
		0.055		0.241		0.279	2.74		0.336	3.66		0.373	6.05	
		0.065		0.224		0.228	0.00	acc.	0.373	3.66		0.304	5.74	
		0.060		0.162		0.186	-1.41	acc.	0.295	1.60	acc.	0.221	3.58	
		0.070		0.151		0.122	-2.67		0.152	0.09	acc.	0.187	3.84	
		0.075		0.105		0.118	-2.28	acc.	0.146	2.13		0.163	3.01	
		0.080		0.100		0.100	0.63	acc.	0.135	3.44		0.148	4.81	

Table V - DATA OUTPUT PLAN SET I

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	NCO		ASN(Pa)	Plan 01 Mean # Inspected	Std Dev # Insp.		Mean CI (+ -)	Accept @ Pa	% Lots Accepted		Ave # Times Stop Rule	P(stop rule)
0.005	0.01	0.005	4505		1287	1312.5	933.9		40.9	0.950	0.922		19.5	0.020
		0.006			1603	1913.2	1155.7		50.9	0.829	0.778		52.5	0.053
		0.007			2085	1743.9	1206.8		52.9	0.624	0.605		55.5	0.056
		0.008			1764	1699.7	1197.0		52.5	0.375	0.401		56.5	0.057
		0.009			1485	1555.2	1126.4		49.4	0.203	0.240		40	0.040
		0.010			1225	1321.2	1022.2		44.8	0.100	0.147		23	0.023
0.005	0.02	0.006	792		284	277.5	164.8		7.2	0.909	0.921		54	0.054
		0.008			301	302.4	182.9		8.0	0.795	0.802		86.5	0.087
		0.010			325	320.1	199.0		8.7	0.637	0.652		127	0.127
		0.012			302	318.1	203.8		8.9	0.467	0.502		121	0.121
		0.014			270	298.0	198.5		8.7	0.330	0.357		96	0.096
		0.016			241	288.8	192.1		8.5	0.224	0.272		76.5	0.077
		0.018			213	252.5	179.5		7.9	0.148	0.186		45	0.045
		0.020			186	224.5	164.0		7.2	0.100	0.123		30.5	0.031
0.005	0.03	0.005	375		122	124.3	64.9		2.8	0.950	0.962		20	0.020
		0.007			134	144.4	82.6		3.6	0.892	0.915		48.5	0.049
		0.010			149	155.8	96.3		4.2	0.767	0.785		84.5	0.085
		0.013			150	163.2	101.8		4.5	0.609	0.663		100.5	0.101
		0.016			139	154.6	102.8		4.5	0.467	0.514		94.5	0.095
		0.019			126	146.8	100.6		4.4	0.341	0.379		67.5	0.068
		0.022			113	136.0	97.4		4.3	0.245	0.268		50	0.050
		0.025			100	123.4	91.7		4.0	0.176	0.194		34	0.034
		0.028			88	107.6	83.8		3.7	0.128	0.130		19	0.019
		0.030			82	102.1	79.8		3.6	0.100	0.110		13.5	0.014
0.005	0.04	0.005	182		80	79.8	34.9		1.5	0.950	0.973		63.5	0.064
		0.007			84	86.8	41.9		1.8	0.905	0.935		115	0.115
		0.010			88	95.1	48.4		2.1	0.812	0.869		178	0.178
		0.013			89	94.0	50.6		2.2	0.706	0.780		184.5	0.185
		0.016			83	96.8	51.9		2.3	0.594	0.668		188	0.188
		0.019			83	93.6	54.4		2.4	0.492	0.561		191	0.191
		0.022			79	90.4	54.2		2.4	0.399	0.481		169	0.169
		0.025			74	88.1	53.3		2.3	0.319	0.389		144.5	0.145
		0.028			68	79.7	53.1		2.3	0.254	0.316		116.5	0.117
		0.031			63	76.9	52.8		2.3	0.199	0.252		104	0.104
		0.034			58	71.3	51.7		2.3	0.159	0.193		90	0.090
		0.037			53	66.7	49.3		2.2	0.125	0.166		70.5	0.071
		0.040			49	61.1	46.4		2.0	0.100	0.134		48	0.048
0.005	0.05	0.005	151		58	60.3	26.3		1.2	0.950	0.982		43	0.043
		0.008			62	67.5	34.6		1.5	0.891	0.934		100	0.100
		0.011			63	71.1	37.3		1.6	0.812	0.873		120	0.120

Table V - DATA OUTPUT PLAN SET I

(h1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014			63	70.9	39.5		1.7	0.725	0.794		124.5	0.125
		0.017			63	72.1	41.4		1.8	0.640	0.705		142.5	0.143
		0.020			70	71.8	42.5		1.9	0.553	0.637		145.5	0.146
		0.023			62	70.7	42.0		1.8	0.473	0.553		130	0.130
		0.026			57	69.0	42.1		1.8	0.399	0.493		121	0.121
		0.029			55	66.3	41.7		1.8	0.330	0.423		106	0.106
		0.032			49	63.8	41.6		1.8	0.288	0.345		87	0.087
		0.035			46	60.4	41.2		1.8	0.241	0.306		80.5	0.081
		0.038			42	56.7	39.7		1.7	0.203	0.260		65.5	0.066
		0.041			41	52.2	37.1		1.6	0.171	0.191		40.5	0.041
		0.044			38	49.0	35.6		1.6	0.142	0.163		25	0.025
		0.047			36	45.5	34.0		1.5	0.119	0.124		24.5	0.025
		0.050			34	42.3	31.8		1.4	0.100	0.091		12.5	0.013
0.005	0.06	0.005	120		46	48.8	21.7		0.9	0.950	0.976		34.5	0.035
		0.009			48	53.5	27.0		1.2	0.878	0.938		65.5	0.066
		0.013			49	56.8	30.8		1.4	0.788	0.858		98	0.098
		0.017			50	58.0	32.3		1.4	0.695	0.775		104	0.104
		0.021			56	58.2	34.3		1.5	0.600	0.675		111.5	0.112
		0.025			49	56.8	34.5		1.6	0.489	0.597		101	0.101
		0.029			43	55.1	34.5		1.6	0.423	0.515		86.5	0.087
		0.033			40	51.9	34.1		1.5	0.352	0.432		82	0.082
		0.037			38	49.3	32.8		1.4	0.293	0.371		63	0.063
		0.041			35	47.7	33.4		1.5	0.245	0.286		60	0.060
		0.045			33	43.3	30.2		1.3	0.203	0.224		34	0.034
		0.049			31	41.3	29.1		1.3	0.167	0.188		28	0.028
		0.053			29	37.5	27.3		1.2	0.137	0.153		17.5	0.018
		0.057			27	35.9	26.7		1.2	0.116	0.115		13.5	0.014
		0.060			26	34.4	25.8		1.1	0.100	0.098		10.5	0.011
0.005	0.07	0.005	74		37	40.2	14.9		0.7	0.950	0.978		158	0.158
		0.010			39	43.0	17.6		0.8	0.866	0.939		233	0.233
		0.015			40	44.5	18.9		0.8	0.767	0.870		265.5	0.266
		0.020			41	44.4	20.1		0.9	0.669	0.785		276.5	0.277
		0.025			42	44.7	20.5		0.9	0.581	0.696		258.5	0.259
		0.030			38	42.7	20.9		0.9	0.464	0.579		232.5	0.233
		0.035			34	40.8	21.3		0.9	0.387	0.495		205.5	0.206
		0.040			31	38.7	21.3		0.9	0.321	0.423		176.5	0.177
		0.045			28	36.9	20.9		0.9	0.269	0.342		140	0.140
		0.050			27	35.5	20.7		0.9	0.219	0.304		127.5	0.128
		0.055			26	33.8	20.4		0.9	0.181	0.244		108	0.108
		0.060			23	31.7	19.9		0.8	0.148	0.205		89.5	0.090
		0.065			21	29.6	19.1		0.8	0.121	0.167		86.5	0.087
		0.070			20	28.3	18.0		0.8	0.100	0.131		59.5	0.060

Table VI - ASN TESTING , PLAN SET I

(h1-1) ACCEPTANCE RULE

				Plan 01		Computed				
				Mean #		t		Ho: µ1 = µ2		Ho: µ1 = µ2
P1	P2	Ps	ASN(Ps)	Inspected	Difference	Statistic	t(.05)	Ha: µ1 < µ2	t(.01)	Ha: µ1 < µ2
0.005	0.01	0.005	1287	1312.5	25.35	1.21	-1.646	Accept	-2.328	Acc.
		0.006	1603	1613.2	10.47	0.41	-1.646	Accept	-2.328	Acc.
		0.007	2085	1743.9	-341.08	-12.64	-1.646	R	-2.328	R
		0.008	1764	1699.7	-64.03	-2.39	-1.646	R	-2.328	R
		0.009	1485	1555.2	70.04	2.78	-1.646	Accept	-2.328	Acc.
		0.010	1225	1321.2	96.46	4.22	-1.646	Accept	-2.328	Acc.
0.005	0.02	0.006	264	277.5	13.85	3.76	-1.646	Accept	-2.328	Acc.
		0.008	301	302.4	1.50	0.37	-1.646	Accept	-2.328	Acc.
		0.010	325	329.1	3.73	0.84	-1.646	Accept	-2.328	Acc.
		0.012	302	318.1	16.30	3.58	-1.646	Accept	-2.328	Acc.
		0.014	270	298.0	28.12	6.34	-1.646	Accept	-2.328	Acc.
		0.016	241	288.8	47.50	11.00	-1.646	Accept	-2.328	Acc.
		0.018	213	252.5	39.95	9.95	-1.646	Accept	-2.328	Acc.
		0.020	186	224.5	38.85	10.59	-1.646	Accept	-2.328	Acc.
0.005	0.03	0.005	122	124.3	1.87	1.29	-1.646	Accept	-2.328	Acc.
		0.007	134	144.4	10.50	5.68	-1.646	Accept	-2.328	Acc.
		0.010	146	155.8	10.21	4.74	-1.646	Accept	-2.328	Acc.
		0.013	150	163.2	13.19	5.80	-1.646	Accept	-2.328	Acc.
		0.016	138	154.6	16.61	7.23	-1.646	Accept	-2.328	Acc.
		0.019	126	146.8	21.20	9.42	-1.646	Accept	-2.328	Acc.
		0.022	113	136.0	23.39	10.74	-1.646	Accept	-2.328	Acc.
		0.025	100	123.4	23.48	11.45	-1.646	Accept	-2.328	Acc.
		0.028	88	107.6	19.41	10.36	-1.646	Accept	-2.328	Acc.
		0.030	82	102.1	19.82	11.12	-1.646	Accept	-2.328	Acc.
0.005	0.04	0.005	80	79.8	0.26	0.33	-1.646	Accept	-2.328	Acc.
		0.007	84	86.8	2.49	2.66	-1.646	Accept	-2.328	Acc.
		0.010	88	95.1	7.11	6.57	-1.646	Accept	-2.328	Acc.
		0.013	89	94.9	5.61	4.96	-1.646	Accept	-2.328	Acc.
		0.016	83	96.6	13.92	11.99	-1.646	Accept	-2.328	Acc.
		0.019	83	93.6	10.99	9.03	-1.646	Accept	-2.328	Acc.
		0.022	79	90.4	11.71	9.65	-1.646	Accept	-2.328	Acc.
		0.025	74	88.1	14.50	12.16	-1.646	Accept	-2.328	Acc.
		0.028	68	79.7	11.61	9.78	-1.646	Accept	-2.328	Acc.
		0.031	63	76.9	13.74	11.64	-1.646	Accept	-2.328	Acc.
		0.034	58	71.3	13.37	11.57	-1.646	Accept	-2.328	Acc.
		0.037	53	66.7	13.20	11.97	-1.646	Accept	-2.328	Acc.
		0.040	49	61.1	11.92	11.49	-1.646	Accept	-2.328	Acc.
0.005	0.05	0.005	58	60.3	2.02	3.43	-1.646	Accept	-2.328	Acc.
		0.008	62	67.5	5.49	7.06	-1.646	Accept	-2.328	Acc.
		0.011	63	71.1	7.84	9.40	-1.646	Accept	-2.328	Acc.

REPRODUCED AT GOVERNMENT EXPENSE

Table VI - ASN TESTING , PLAN SET I
(h1-1) ACCEPTANCE RULE
(CONTINUED)

		0.014	63	70.9	8.04	9.34	-1.646	Accept	-2.328	Acc.
		0.017	63	72.1	8.82	9.52	-1.646	Accept	-2.328	Acc.
		0.020	70	71.8	2.06	2.16	-1.646	Accept	-2.328	Acc.
		0.023	62	70.7	8.65	9.21	-1.646	Accept	-2.328	Acc.
		0.026	57	69.0	11.89	12.62	-1.646	Accept	-2.328	Acc.
		0.029	55	66.3	11.19	12.01	-1.646	Accept	-2.328	Acc.
		0.032	49	63.8	14.50	15.63	-1.646	Accept	-2.328	Acc.
		0.035	46	60.4	13.92	15.11	-1.646	Accept	-2.328	Acc.
		0.038	43	56.7	13.24	14.92	-1.646	Accept	-2.328	Acc.
		0.041	41	52.2	11.49	13.87	-1.646	Accept	-2.328	Acc.
		0.044	38	49.0	10.70	13.45	-1.646	Accept	-2.328	Acc.
		0.047	36	45.5	9.47	12.48	-1.646	Accept	-2.328	Acc.
		0.050	34	42.3	8.40	11.81	-1.646	Accept	-2.328	Acc.
0.005	0.06	0.005	46	48.8	3.17	6.55	-1.646	Accept	-2.328	Acc.
		0.009	48	53.5	5.20	8.62	-1.646	Accept	-2.328	Acc.
		0.013	49	56.8	7.99	11.59	-1.646	Accept	-2.328	Acc.
		0.017	50	58.0	7.61	10.53	-1.646	Accept	-2.328	Acc.
		0.021	56	58.2	2.13	2.78	-1.646	Accept	-2.328	Acc.
		0.025	49	56.6	7.20	9.34	-1.646	Accept	-2.328	Acc.
		0.029	43	55.1	12.22	15.82	-1.646	Accept	-2.328	Acc.
		0.033	40	51.9	11.46	15.02	-1.646	Accept	-2.328	Acc.
		0.037	38	49.3	11.60	15.92	-1.646	Accept	-2.328	Acc.
		0.041	35	47.7	12.79	17.12	-1.646	Accept	-2.328	Acc.
		0.045	33	43.3	10.69	15.82	-1.646	Accept	-2.328	Acc.
		0.049	31	41.3	10.83	16.62	-1.646	Accept	-2.328	Acc.
		0.053	29	37.5	8.91	14.61	-1.646	Accept	-2.328	Acc.
		0.057	27	35.9	9.37	15.72	-1.646	Accept	-2.328	Acc.
		0.060	25	34.4	9.09	15.76	-1.646	Accept	-2.328	Acc.
0.005	0.07	0.005	37	40.2	2.82	8.48	-1.646	Accept	-2.328	Acc.
		0.010	39	43.0	3.91	9.99	-1.646	Accept	-2.328	Acc.
		0.015	40	44.5	4.90	11.67	-1.646	Accept	-2.328	Acc.
		0.020	41	44.4	2.99	6.65	-1.646	Accept	-2.328	Acc.
		0.025	42	44.7	2.36	5.15	-1.646	Accept	-2.328	Acc.
		0.030	38	42.7	5.07	10.86	-1.646	Accept	-2.328	Acc.
		0.035	34	40.8	7.18	15.09	-1.646	Accept	-2.328	Acc.
		0.040	31	38.7	7.69	16.17	-1.646	Accept	-2.328	Acc.
		0.045	28	36.8	8.43	18.04	-1.646	Accept	-2.328	Acc.
		0.050	27	35.5	8.96	19.39	-1.646	Accept	-2.328	Acc.
		0.055	25	33.8	9.23	20.24	-1.646	Accept	-2.328	Acc.
		0.060	23	31.7	8.78	19.75	-1.646	Accept	-2.328	Acc.
		0.065	21	29.6	8.14	19.04	-1.646	Accept	-2.328	Acc.
		0.070	20	28.3	8.35	19.85	-1.646	Accept	-2.328	Acc.

Table VII - OC CURVE TESTING , PLAN SET I
(h1-1) ACCEPTANCE RULE

P1	P2	Pa	PLAN 01 Accept @ Pa P2	% Lots Accepted P1	SE(P)	Z Statistic	Z(.05) + or -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) + or -	Ho: P1 = P2 Ha: P1 ≠ P2
0.005	0.01	0.006	0.950	0.922	0.005	-5.12	1.960	R	2.054	R
		0.006	0.828	0.778	0.009	-5.57	1.960	R	2.054	R
		0.007	0.828	0.605	0.011	-1.78	1.960	Accept	2.054	Accept
		0.008	0.375	0.401	0.011	3.30	1.960	R	2.054	R
		0.009	0.203	0.240	0.007	3.38	1.960	R	2.054	R
		0.010	0.100	0.147	0.007	3.38	1.960	R	2.054	R
0.005	0.02	0.006	0.909	0.821	0.006	1.78	1.960	Accept	2.054	Accept
		0.008	0.795	0.802	0.009	0.82	1.960	Accept	2.054	Accept
		0.010	0.637	0.862	0.011	3.38	1.960	R	2.054	R
		0.012	0.467	0.502	0.011	3.14	1.960	R	2.054	R
		0.018	0.069	0.357	0.011	3.38	1.960	R	2.054	R
		0.018	0.224	0.272	0.011	0.02	1.960	R	2.054	R
		0.018	0.148	0.186	0.007	4.53	1.960	R	2.054	R
		0.020	0.140	0.123	0.007	3.30	1.960	R	2.054	R
0.005	0.03	0.006	0.950	0.862	0.005	2.62	1.960	R	2.054	R
		0.007	0.969	0.915	0.007	3.38	1.960	R	2.054	R
		0.010	0.767	0.785	0.009	1.00	1.960	Accept	2.054	Accept
		0.013	0.699	0.862	0.011	5.01	1.960	R	2.054	R
		0.016	0.467	0.614	0.011	4.22	1.960	R	2.054	R
		0.019	0.241	0.370	0.011	3.48	1.960	R	2.054	R
		0.022	0.245	0.268	0.010	2.33	1.960	R	2.054	R
		0.025	0.176	0.194	0.009	2.05	1.960	R	2.054	Accept
		0.028	0.128	0.130	0.008	0.20	1.960	Accept	2.054	Accept
		0.030	0.100	0.110	0.007	1.46	1.960	Accept	2.054	Accept
0.005	0.04	0.005	0.050	0.872	0.004	6.35	1.960	R	2.054	R
		0.007	0.905	0.935	0.006	4.99	1.960	R	2.054	R
		0.010	0.812	0.868	0.008	7.00	1.960	R	2.054	R
		0.013	0.796	0.790	0.010	7.60	1.960	R	2.054	R
		0.016	0.694	0.668	0.011	8.80	1.960	R	2.054	R
		0.019	0.492	0.561	0.011	6.12	1.960	R	2.054	R
		0.022	0.398	0.481	0.011	5.59	1.960	R	2.054	R
		0.025	0.319	0.389	0.011	6.52	1.960	R	2.054	R
		0.028	0.254	0.315	0.010	6.01	1.960	R	2.054	R
		0.031	0.199	0.252	0.009	5.63	1.960	R	2.054	R
		0.034	0.159	0.193	0.009	3.93	1.960	R	2.054	R
		0.037	0.125	0.186	0.008	5.26	1.960	R	2.054	R
		0.040	0.100	0.134	0.007	4.73	1.960	R	2.054	R
0.005	0.05	0.005	0.950	0.982	0.004	7.90	1.960	R	2.054	R
		0.008	0.891	0.934	0.006	6.83	1.960	R	2.054	R
		0.011	0.812	0.872	0.008	7.48	1.960	R	2.054	R

Table VII - OC CURVE TESTING , PLAN SET I

(h1-1) ACCEPTANCE RULE

		0.014		0.725	0.795		0.010		7.27	1.960	R	2.054	R
		0.017		0.640	0.705		0.010		6.24	1.960	R	2.054	R
		0.020		0.553	0.637		0.011		7.39	1.960	R	2.054	R
		0.023		0.499	0.553		0.011		7.10	1.960	R	2.054	R
		0.026		0.389	0.493		0.011		8.45	1.960	R	2.054	R
		0.029		0.330	0.423		0.011		8.57	1.960	R	2.054	R
		0.032		0.288	0.345		0.010		6.42	1.960	R	2.054	R
		0.035		0.241	0.306		0.010		6.40	1.960	R	2.054	R
		0.038		0.203	0.260		0.009		5.06	1.960	R	2.054	R
		0.041		0.171	0.181		0.009		3.32	1.960	R	2.054	R
		0.044		0.142	0.153		0.008		2.51	1.960	R	2.054	R
		0.047		0.119	0.153		0.008		1.88	1.960	Accept	2.054	Acce
		0.050		0.100	0.091		0.008		-1.37	1.960	Accept	2.054	Acce
0.005	0.06	0.005		0.880	0.976		0.004		8.08	1.960	R	2.054	R
		0.009		0.878	0.938		0.008		8.08	1.960	R	2.054	R
		0.013		0.786	0.898		0.008		8.44	1.960	R	2.054	R
		0.017		0.499	0.775		0.010		8.08	1.960	R	2.054	R
		0.021		0.600	0.679		0.011		8.08	1.960	R	2.054	R
		0.025		0.499	0.637		0.011		8.00	1.960	R	2.054	R
		0.029		0.499	0.515		0.011		8.21	1.960	R	2.054	R
		0.033		0.352	0.432		0.011		8.08	1.960	R	2.054	R
		0.037		0.293	0.371		0.011		7.39	1.960	R	2.054	R
		0.041		0.148	0.296		0.010		4.12	1.960	R	2.054	R
		0.045		0.203	0.224		0.009		8.08	1.960	R	2.054	R
		0.049		0.187	0.153		0.009		8.08	1.960	R	2.054	R
		0.053		0.137	0.153		0.009		8.08	1.960	R	2.054	R
		0.057		0.116	0.115		0.007		-0.11	1.960	Accept	2.054	Acce
		0.059		0.100	0.098		0.007		-0.37	1.960	Accept	2.054	Acce
0.005	0.07	0.005		0.880	0.679		0.009		8.66	1.960	R	2.054	R
		0.010		0.866	0.939		0.007		10.00	1.960	R	2.054	R
		0.015		0.767	0.870		0.007		11.02	1.960	R	2.054	R
		0.020		0.589	0.785		0.010		11.64	1.960	R	2.054	R
		0.025		0.589	0.698		0.011		12.42	1.960	R	2.054	R
		0.030		0.589	0.579		0.011		10.27	1.960	R	2.054	R
		0.035		0.387	0.495		0.011		9.71	1.960	R	2.054	R
		0.040		0.121	0.423		0.011		9.47	1.960	R	2.054	R
		0.045		0.209	0.242		0.010		7.29	1.960	R	2.054	R
		0.050		0.116	0.098		0.010		6.66	1.960	R	2.054	R
		0.055		0.121	0.244		0.009		6.66	1.960	R	2.054	R
		0.060		0.148	0.208		0.009		6.66	1.960	R	2.054	R
		0.065		0.121	0.187		0.009		5.84	1.960	R	2.054	R
		0.070		0.100	0.181		0.007		4.34	1.960	R	2.054	R

Table VIII - DATA OUTPUT PLAN SET II

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	NCO		ASN(Pa)	Plan 02 Mean # Inspected	Std Dev # Insp.		Mean CI (+-)	Accept @ Pa	% Lots Accepted		Ave # Times Stop Rule	P(stop rule)
0.01	0.03	0.010	714		217	216.5	121.4		5.8	0.950	0.954		14.5	0.015
		0.012			242	247.5	158.1		7.0	0.885	0.916		37	0.037
		0.014			271	271.6	179.2		7.7	0.812	0.830		58	0.058
		0.016			285	292.7	190.3		5.8	0.706	0.737		77.5	0.078
		0.018			282	297.1	198.2		8.7	0.581	0.592		93.5	0.094
		0.020			285	297.8	200.8		5.8	0.448	0.485		90	0.090
		0.022			257	291.8	199.5		8.8	0.352	0.335		88	0.088
		0.024			280	262.0	185.2		8.1	0.250	0.265		55.5	0.056
		0.026			222	250.2	179.9		2.9	0.189	0.181		45	0.045
		0.028			199	225.2	161.9		7.1	0.139	0.181		55.5	0.024
		0.030			181	207.9	158.0		4.3	0.100	0.120		55.5	0.021
0.01	0.04	0.010	350		121	120.7	90.6		2.9	0.950	0.968		21	0.021
		0.013			134	155.0	90.0		4.3	0.884	0.901		57	0.057
		0.016			145	155.0	90.8		4.1	0.790	0.800		95	0.095
		0.019			123	163.3	90.8		4.3	0.683	0.668		116	0.116
		0.022			165	151.6	101.9		4.3	0.549	0.579		129.5	0.130
		0.025			160	151.0	101.2		4.3	0.436	0.454		121.5	0.122
		0.028			165	151.6	90.6		4.3	0.325	0.359		95	0.095
		0.031			123	140.6	90.9		4.3	0.250	0.261		78.5	0.079
		0.034			112	127.3	90.8		4.3	0.185	0.205		58.5	0.059
		0.037			102	118.2	90.8		4.3	0.137	0.147		40	0.040
		0.040			92	107.6	79.2		3.5	0.100	0.101		24	0.024
0.01	0.05	0.010	215		81	85.2	40.2		2.0	0.950	0.954		49.5	0.050
		0.013			88	90.8	49.1		2.2	0.900	0.928		64.5	0.065
		0.016			92	97.2	54.8		2.4	0.828	0.863		101.5	0.102
		0.019			94	102.7	57.9		2.5	0.743	0.789		124.5	0.125
		0.022			97	104.1	60.8		2.7	0.654	0.719		129.5	0.130
		0.025			98	105.0	61.5		2.7	0.563	0.614		137	0.137
		0.028			99	102.8	62.2		2.7	0.467	0.514		135.5	0.136
		0.031			91	99.5	62.0		2.7	0.387	0.424		122.5	0.123
		0.034			90	95.9	60.7		2.7	0.303	0.358		102	0.102
		0.037			80	90.7	58.9		2.6	0.254	0.281		83.5	0.084
		0.040			75	85.6	58.1		2.5	0.203	0.223		63.5	0.064
		0.042			71	81.6	56.9		2.5	0.177	0.187		58.5	0.059
		0.044			67	81.1	54.9		2.4	0.154	0.166		46.5	0.047
		0.047			62	75.7	54.6		2.4	0.125	0.142		38	0.038
		0.050			58	70.4	50.5		2.2	0.100	0.119		28.5	0.029
0.01	0.06	0.010	151		60	61.2	30.8		1.3	0.950	0.959		56	0.056
		0.013			63	68.0	35.5		1.6	0.899	0.948		87	0.087
		0.016			68	70.6	38.1		1.7	0.855	0.883		111	0.111

Table VIII - DATA OUTPUT PLAN SET II

(h1-1) ACCEPTANCE RULE

(CONTINUED)

		0.019			70	75.8	43.4		1.9	0.786	0.840		146	0.182
		0.022			70	75.8	43.4		1.9	0.711	0.751		162	0.182
		0.025			70	75.8	43.4		1.9	0.643	0.685		162	0.167
		0.025			60	75.7	43.4		1.8	0.595	0.641		130.5	0.158
		0.031			70	74.8	44.7		2.0	0.488	0.641		157.5	0.158
		0.020			66	73.1	45.2		2.0	0.402	0.429		150.5	0.151
		0.040			60	70.2	30.3		1.8	0.309	0.233		110.5	0.111
		0.043			66	68.1	30.3		1.8	0.264	0.291		103.5	0.104
		0.046			66	68.1	30.3		1.8	0.224	0.247		87.5	0.088
		0.048			66	60.3	41.7		1.8	0.190	0.233		73	0.073
		0.051			66	60.3	40.8		1.8	0.167	0.201		59	0.059
		0.054			66	65.7	30.3		1.7	0.142	0.164		87.5	0.052
		0.057			41	61.7	30.3		1.8	0.119	0.121		40.5	0.041
		0.060			41	60.3	27.2		1.8	0.100	0.091		31	0.031
0.01	0.07	0.010	123		47	66.1	23.5		1.0	0.960	0.969		40.5	0.031
		0.015			66	60.3	30.3		1.8	0.885	0.923		69	0.069
		0.020			66	60.3	34.4		1.8	0.786	0.842		110	0.110
		0.020			66	61.3	45.2		1.8	0.790	0.752		119.5	0.119
		0.020			66	60.3	27.2		1.9	0.587	0.641		120.5	0.121
		0.020			66	60.3	30.3		1.7	0.486	0.641		124.5	0.125
		0.040			66	57.8	27.1		1.8	0.389	0.685		103.5	0.104
		0.045			47	64.2	30.8		1.8	0.309	0.369		91	0.091
		0.050			43	61.5	26.8		1.8	0.250	0.283		70.5	0.071
		0.055			39	47.8	24.2		1.5	0.199	0.226		52	0.052
		0.060			36	44.7	23.1		1.5	0.162	0.167		40	0.040
		0.065			33	41.9	22.3		1.4	0.126	0.134		30	0.030
		0.070			31	38.3	24.3		1.5	0.100	0.109		20	0.020
0.01	0.08	0.010	80		39	40.3	17.9		0.8	0.950	0.976		68	0.068
		0.015			42	43.2	21.4		0.9	0.892	0.923		119	0.119
		0.020			42	47.8	23.9		1.0	0.808	0.864		176.5	0.177
		0.025			44	46.4	24.6		1.1	0.727	0.795		172.5	0.173
		0.030			46	47.8	25.5		1.1	0.613	0.716		188.5	0.189
		0.035			49	47.1	25.9		1.1	0.543	0.617		176.5	0.177
		0.040			44	45.8	26.3		1.2	0.454	0.524		172	0.172
		0.045			39	44.4	26.7		1.2	0.387	0.468		163	0.163
		0.050			37	43.6	27.1		1.2	0.319	0.383		157	0.157
		0.055			35	42.1	25.8		1.1	0.241	0.329		126	0.126
		0.060			32	38.3	25.2		1.1	0.224	0.274		93	0.093
		0.065			30	36.6	25.5		1.1	0.185	0.218		81.5	0.082
		0.070			28	35.6	24.7		1.1	0.151	0.163		70.5	0.071
		0.075			26	32.1	23.5		1.0	0.123	0.130		54	0.054
		0.080			25	30.8	22.0		1.0	0.100	0.124		38	0.038

TableIX - ASN TESTING , PLAN SET II

$(h_1$-1) ACCEPTANCE RULE

P1	P2	Pa	ASN(Pa)	Plan 02 Mean # Inspected	Difference	Computed t Statistic	t(.05)	Ho: μ1 = μ2 Ha: μ1 < μ2	t(.01)	Ho: μ1 = μ2 Ha: μ1 < μ2
0.01	0.03	0.010	217	216.5	-0.26	-0.09	-1.646	Accept	-2.328	Acc.
		0.012	245	247.5	2.02	0.57	-1.646	Accept	-2.328	Acc.
		0.014	271	271.6	0.77	0.19	-1.646	Accept	-2.328	Acc.
		0.016	295	292.7	-2.27	-0.53	-1.646	Accept	-2.328	Acc.
		0.018	363	297.1	-65.43	-14.76	-1.646	R	-2.328	R
		0.020	298	297.8	-0.54	-0.12	-1.646	Accept	-2.328	Acc.
		0.022	257	291.6	34.75	7.91	-1.646	Accept	-2.328	Acc.
		0.024	250	262.0	12.37	2.99	-1.646	Accept	-2.328	Acc.
		0.026	222	250.2	28.26	7.02	-1.646	Accept	-2.328	Acc.
		0.028	199	225.2	25.75	7.11	-1.646	Accept	-2.328	Acc.
		0.030	181	207.9	26.85	7.60	-1.646	Accept	-2.328	Acc.
0.01	0.04	0.010	121	120.7	0.15	0.10	-1.646	Accept	-2.328	Acc.
		0.013	134	138.0	3.56	1.95	-1.646	Accept	-2.328	Acc.
		0.016	145	155.0	9.81	4.73	-1.646	Accept	-2.328	Acc.
		0.019	162	163.3	1.02	0.46	-1.646	Accept	-2.328	Acc.
		0.022	165	164.9	0.05	0.02	-1.646	Accept	-2.328	Acc.
		0.025	150	161.0	11.02	4.87	-1.646	Accept	-2.328	Acc.
		0.028	138	151.6	13.95	6.33	-1.646	Accept	-2.328	Acc.
		0.031	123	140.6	17.99	8.31	-1.646	Accept	-2.328	Acc.
		0.034	112	127.3	15.22	7.50	-1.646	Accept	-2.328	Acc.
		0.037	102	118.2	16.70	8.66	-1.646	Accept	-2.328	Acc.
		0.040	92	107.6	15.41	8.70	-1.646	Accept	-2.328	Acc.
0.01	0.05	0.010	81	85.2	4.13	4.00	-1.646	Accept	-2.328	Acc.
		0.013	88	90.8	2.59	2.36	-1.646	Accept	-2.328	Acc.
		0.016	92	97.2	4.76	3.89	-1.646	Accept	-2.328	Acc.
		0.019	94	102.7	8.31	6.42	-1.646	Accept	-2.328	Acc.
		0.022	97	104.1	7.46	5.50	-1.646	Accept	-2.328	Acc.
		0.025	98	105.0	7.03	5.11	-1.646	Accept	-2.328	Acc.
		0.028	99	102.8	3.68	2.65	-1.646	Accept	-2.328	Acc.
		0.031	91	99.5	8.35	6.02	-1.646	Accept	-2.328	Acc.
		0.034	90	96.9	6.93	5.11	-1.646	Accept	-2.328	Acc.
		0.037	80	90.7	10.39	7.89	-1.646	Accept	-2.328	Acc.
		0.040	75	85.6	10.63	8.19	-1.646	Accept	-2.328	Acc.
		0.042	71	81.6	10.69	8.40	-1.646	Accept	-2.328	Acc.
		0.044	67	81.1	13.77	11.23	-1.646	Accept	-2.328	Acc.
		0.047	62	75.7	13.26	10.86	-1.646	Accept	-2.328	Acc.
		0.050	58	70.4	12.35	10.93	-1.646	Accept	-2.328	Acc.
0.01	0.06	0.010	60	61.2	0.96	1.40	-1.646	Accept	-2.328	Acc.
		0.013	63	68.0	5.40	6.80	-1.646	Accept	-2.328	Acc.
		0.016	68	70.6	2.77	3.25	-1.646	Accept	-2.328	Acc.

REPRODUCED AT GOVERNMENT EXPENSE

TableIX - ASN TESTING , PLAN SET II

(h1-1) ACCEPTANCE RULE

(CONTINUED)

		0.019	70	74.8	4.83	5.32	-1.646	Accept	-2.328	Acc.
		0.022	72	75.8	3.80	4.00	-1.646	Accept	-2.328	Acc.
		0.025	76	75.4	-0.62	-0.64	-1.646	Accept	-2.328	Acc.
		0.028	80	75.7	-4.75	-4.84	-1.646	R	-2.328	R
		0.031	76	74.6	-1.39	-1.39	-1.646	Accept	-2.328	Acc.
		0.035	65	73.1	7.80	7.72	-1.646	Accept	-2.328	Acc.
		0.040	60	70.2	10.29	10.47	-1.646	Accept	-2.328	Acc.
		0.043	56	66.1	9.66	9.85	-1.646	Accept	-2.328	Acc.
		0.046	53	63.7	10.42	10.79	-1.646	Accept	-2.328	Acc.
		0.049	51	60.4	9.53	10.21	-1.646	Accept	-2.328	Acc.
		0.051	49	58.4	9.81	10.73	-1.646	Accept	-2.328	Acc.
		0.054	46	55.7	9.94	11.18	-1.646	Accept	-2.328	Acc.
		0.057	43	51.7	8.49	9.93	-1.646	Accept	-2.328	Acc.
		0.060	41	48.0	7.05	8.47	-1.646	Accept	-2.328	Acc.
0.01	0.07	0.010	47	49.1	1.62	3.08	-1.646	Accept	-2.328	Acc.
		0.015	52	55.9	4.14	6.11	-1.646	Accept	-2.328	Acc.
		0.020	55	60.3	5.29	6.88	-1.646	Accept	-2.328	Acc.
		0.025	58	61.3	3.16	3.94	-1.646	Accept	-2.328	Acc.
		0.030	57	62.2	5.40	6.44	-1.646	Accept	-2.328	Acc.
		0.035	55	60.4	5.39	6.33	-1.646	Accept	-2.328	Acc.
		0.040	49	57.8	8.55	10.32	-1.646	Accept	-2.328	Acc.
		0.045	47	54.2	6.87	8.32	-1.646	Accept	-2.328	Acc.
		0.050	43	51.5	8.67	10.89	-1.646	Accept	-2.328	Acc.
		0.055	39	47.6	8.18	10.70	-1.646	Accept	-2.328	Acc.
		0.060	36	44.7	8.72	11.78	-1.646	Accept	-2.328	Acc.
		0.065	33	41.9	8.41	11.64	-1.646	Accept	-2.328	Acc.
		0.070	31	38.3	7.40	9.66	-1.646	Accept	-2.328	Acc.
0.01	0.08	0.010	39	40.3	1.27	3.18	-1.646	Accept	-2.328	Acc.
		0.015	42	43.2	1.38	2.89	-1.646	Accept	-2.328	Acc.
		0.020	42	47.6	5.44	10.18	-1.646	Accept	-2.328	Acc.
		0.025	44	46.4	2.43	4.42	-1.646	Accept	-2.328	Acc.
		0.030	46	47.9	1.90	3.34	-1.646	Accept	-2.328	Acc.
		0.035	49	47.1	-1.72	-2.98	-1.646	R	-2.328	Acc.
		0.040	44	45.6	1.72	2.93	-1.646	Accept	-2.328	Acc.
		0.045	39	44.4	5.69	9.53	-1.646	Accept	-2.328	Acc.
		0.050	37	43.6	6.76	11.15	-1.646	Accept	-2.328	Acc.
		0.055	35	42.1	7.07	12.24	-1.646	Accept	-2.328	Acc.
		0.060	32	38.3	6.65	11.78	-1.646	Accept	-2.328	Acc.
		0.065	30	36.6	6.99	12.25	-1.646	Accept	-2.328	Acc.
		0.070	28	35.5	7.72	13.97	-1.646	Accept	-2.328	Acc.
		0.075	26	32.1	6.02	11.45	-1.646	Accept	-2.328	Acc.
		0.080	25	29.8	5.24	10.64	-1.646	Accept	-2.328	Acc.

Table X - OC CURVE TESTING , PLAN SET II

(h1-1) ACCEPTANCE RULE

			PLAN 02							
			Accept	% Lots	SE(P)	Z	Z(.05)	Ho: P1 = P2	Z(.02)	Ho: P1 = P2
P1	P2	Pa	@ Pa	Accepted		Statistic	+ or -	Ha: P1 ≠ P2	+ or -	Ha: P1 ≠ P2
			P2	P1						
0.01	0.03	0.010	0.950	0.964	0.005	3.09	1.960	R	2.054	R
		0.012	0.895	0.916	0.007	3.16	1.960	R	2.054	R
		0.014	0.812	0.830	0.009	2.08	1.960	R	2.054	R
		0.016	0.706	0.737	0.010	3.12	1.960	R	2.054	R
		0.018	0.581	0.592	0.011	0.95	1.960	Accept	2.054	Accept
		0.020	0.448	0.485	0.011	3.31	1.960	R	2.054	R
		0.022	0.352	0.335	0.011	-1.60	1.960	Accept	2.054	Accept
		0.024	0.250	0.265	0.010	1.55	1.960	Accept	2.054	Accept
		0.026	0.188	0.191	0.009	0.32	1.960	Accept	2.054	Accept
		0.028	0.139	0.151	0.008	1.40	1.960	Accept	2.054	Accept
		0.030	0.100	0.120	0.007	2.86	1.960	R	2.054	R
0.01	0.04	0.010	0.950	0.968	0.004	4.06	1.960	R	2.054	R
		0.013	0.884	0.901	0.007	2.38	1.960	R	2.054	R
		0.016	0.790	0.800	0.009	1.08	1.960	Accept	2.054	Accept
		0.019	0.683	0.694	0.010	0.97	1.960	Accept	2.054	Accept
		0.022	0.549	0.579	0.011	2.62	1.960	R	2.054	R
		0.025	0.436	0.454	0.011	1.65	1.960	Accept	2.054	Accept
		0.028	0.325	0.359	0.011	3.19	1.960	R	2.054	R
		0.031	0.250	0.261	0.010	1.10	1.960	Accept	2.054	Accept
		0.034	0.190	0.203	0.008	2.04	1.960	R	2.054	Accept
		0.037	0.137	0.147	0.008	1.19	1.960	Accept	2.054	Accept
		0.040	0.100	0.101	0.007	0.07	1.960	Accept	2.054	Accept
0.01	0.05	0.010	0.950	0.954	0.005	0.84	1.960	Accept	2.054	Accept
		0.013	0.900	0.928	0.006	4.40	1.960	R	2.054	R
		0.016	0.828	0.863	0.008	4.32	1.960	R	2.054	R
		0.019	0.743	0.789	0.009	4.89	1.960	R	2.054	R
		0.022	0.654	0.719	0.010	6.18	1.960	R	2.054	R
		0.025	0.563	0.614	0.011	4.61	1.960	R	2.054	R
		0.028	0.467	0.514	0.011	4.17	1.960	R	2.054	R
		0.031	0.387	0.424	0.011	3.31	1.960	R	2.054	R
		0.034	0.303	0.358	0.011	5.18	1.960	R	2.054	R
		0.037	0.254	0.281	0.010	2.64	1.960	R	2.054	R
		0.040	0.203	0.223	0.009	2.10	1.960	R	2.054	R
		0.042	0.177	0.187	0.009	1.11	1.960	Accept	2.054	Accept
		0.044	0.154	0.166	0.008	1.36	1.960	Accept	2.054	Accept
		0.047	0.126	0.142	0.008	2.23	1.960	R	2.054	R
		0.050	0.100	0.119	0.007	2.72	1.960	R	2.054	R
0.01	0.06	0.010	0.950	0.969	0.004	4.31	1.960	R	2.054	R
		0.013	0.899	0.949	0.006	8.21	1.960	R	2.054	R
		0.016	0.856	0.893	0.007	5.16	1.960	R	2.054	R

Table X - OC CURVE TESTING , PLAN SET II

(h1-1) ACCEPTANCE RULE

		0.019		0.786	0.840		0.009		8.16	1.960	R	2.054	R
		0.022		0.711	0.751		0.010		4.02	1.960	R	2.054	R
		0.025		0.643	0.685		0.011		4.02	1.960	R	2.054	R
		0.028		0.565	0.601		0.011		3.19	1.960	R	2.054	R
		0.031		0.488	0.547		0.011		5.43	1.960	R	2.054	R
		0.035		0.402	0.429		0.011		2.44	1.960	R	2.054	R
		0.040		0.309	0.358		0.011		4.88	1.960	R	2.054	R
		0.043		0.264	0.291		0.010		2.87	1.960	R	2.054	R
		0.046		0.224	0.247		0.009		2.42	1.960	R	2.054	R
		0.049		0.185	0.233		0.009		6.28	1.960	R	2.054	R
		0.051		0.167	0.201		0.008		3.85	1.960	R	2.054	R
		0.054		0.142	0.164		0.008		2.63	1.960	R	2.054	R
		0.057		0.119	0.121		0.007		0.14	1.960	Accept	2.054	Accept
		0.060		0.100	0.091		0.007		-1.37	1.960	Accept	2.054	Accept
0.01	0.07	0.010		0.950	0.969		0.004		4.31	1.960	R	2.054	R
		0.015		0.885	0.923		0.007		5.63	1.960	R	2.054	R
		0.020		0.786	0.842		0.009		6.46	1.960	R	2.054	R
		0.025		0.700	0.752		0.010		5.19	1.960	R	2.054	R
		0.030		0.587	0.641		0.011		4.98	1.960	R	2.054	R
		0.035		0.486	0.541		0.011		4.94	1.960	R	2.054	R
		0.040		0.393	0.455		0.011		6.60	1.960	R	2.054	R
		0.045		0.309	0.369		0.011		5.65	1.960	R	2.054	R
		0.050		0.250	0.283		0.010		3.21	1.960	R	2.054	R
		0.055		0.199	0.226		0.009		2.91	1.960	R	2.054	R
		0.060		0.162	0.167		0.008		0.51	1.960	Accept	2.054	Accept
		0.065		0.126	0.134		0.008		1.02	1.960	Accept	2.054	Accept
		0.070		0.100	0.109		0.007		1.32	1.960	Accept	2.054	Accept
0.01	0.08	0.010		0.950	0.976		0.004		8.02	1.960	R	2.054	R
		0.015		0.892	0.923		0.006		4.76	1.960	R	2.054	R
		0.020		0.808	0.864		0.008		6.75	1.960	R	2.054	R
		0.025		0.727	0.795		0.010		7.08	1.960	R	2.054	R
		0.030		0.613	0.716		0.011		8.74	1.960	R	2.054	R
		0.035		0.543	0.617		0.011		6.65	1.960	R	2.054	R
		0.040		0.454	0.534		0.011		7.13	1.960	R	2.054	R
		0.045		0.387	0.468		0.011		7.31	1.960	R	2.054	R
		0.050		0.319	0.383		0.011		6.82	1.960	R	2.054	R
		0.055		0.241	0.329		0.010		8.69	1.960	R	2.054	R
		0.060		0.224	0.274		0.010		6.17	1.960	R	2.054	R
		0.065		0.185	0.216		0.009		3.52	1.960	R	2.054	R
		0.070		0.161	0.163		0.008		1.44	1.960	Accept	2.054	Accept
		0.075		0.123	0.130		0.007		8.91	1.960	Accept	2.054	Accept
		0.080		0.100	0.124		0.007		3.40	1.960	R	2.054	R

Table XI - DATA OUTPUT PLAN SET III

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	NCO	ASN(Pa)	Plan 03 Mean # Inspected	Std Dev # Insp.	Mean CI (+ -)	Accept @ Pa	% Lots Accepted	Ave # Times Stop Rule	P(stop rule)
0.015	0.03	0.015	1532	423	434.8	301.4	13.2	0.950	0.947	16.5	0.017
		0.016		457	458.0	324.3	14.2	0.926	0.912	26.0	0.026
		0.018		542	544.9	380.5	16.7	0.835	0.806	49.0	0.049
		0.020		585	587.3	400.6	17.6	0.689	0.688	54.0	0.054
		0.022		612	603.7	423.3	18.6	0.520	0.509	76.5	0.077
		0.024		580	574.3	408.6	17.9	0.375	0.397	83.0	0.083
		0.026		520	542.1	385.9	16.9	0.245	0.241	46.5	0.047
		0.028		453	489.3	350.1	15.3	0.167	0.184	25.5	0.026
		0.030		403	459.6	328.7	14.8	0.100	0.120	24.0	0.024
0.015	0.04	0.015	696	188	194.0	124.9	5.5	0.950	0.950	18.5	0.019
		0.017		210	213.6	138.3	6.1	0.912	0.917	31.0	0.031
		0.019		230	226.7	153.6	6.7	0.856	0.865	44.0	0.044
		0.022		254	259.2	170.3	7.5	0.738	0.750	75.0	0.076
		0.025		268	277.6	178.9	7.8	0.594	0.608	96.5	0.097
		0.028		250	260.1	178.6	7.8	0.442	0.467	74.5	0.075
		0.031		228	253.7	174.1	7.6	0.319	0.303	66.0	0.066
		0.034		207	223.2	157.5	6.9	0.219	0.229	45.0	0.045
		0.037		186	204.7	148.9	6.5	0.147	0.153	24.0	0.024
		0.040		164	186.0	137.5	6.0	0.100	0.114	19.5	0.020
0.015	0.05	0.015	371	114	117.2	70.3	3.1	0.950	0.952	18.5	0.019
		0.017		123	128.7	80.9	3.5	0.922	0.927	28.0	0.028
		0.019		132	136.8	86.5	3.8	0.884	0.891	46.5	0.047
		0.022		142	147.4	95.3	4.2	0.808	0.832	65.5	0.066
		0.025		149	152.4	97.3	4.3	0.711	0.747	65.0	0.065
		0.028		153	158.2	103.5	4.5	0.612	0.627	95.0	0.095
		0.031		146	157.6	103.4	4.5	0.499	0.520	83.5	0.084
		0.034		135	148.8	102.3	4.5	0.405	0.399	76.0	0.076
		0.037		132	144.2	98.1	4.3	0.314	0.326	67.5	0.068
		0.040		125	136.7	95.7	4.2	0.254	0.250	50.0	0.050
		0.042		119	130.7	91.7	4.0	0.196	0.213	43.5	0.044
		0.044		110	124.8	90.2	4.0	0.171	0.184	31.5	0.032
		0.047		101	116.8	85.8	3.8	0.131	0.144	25.5	0.026
		0.050		92	108.4	77.8	3.4	0.100	0.106	18.0	0.018
0.015	0.06	0.015	233	79	83.0	48.7	2.0	0.950	0.961	31.5	0.032
		0.017		84	87.8	51.7	2.3	0.926	0.942	46.5	0.047
		0.019		89	90.5	54.4	2.4	0.900	0.919	57.0	0.057
		0.022		94	101.5	60.4	2.6	0.839	0.864	83.5	0.084
		0.025		101	103.2	61.9	2.7	0.777	0.794	97.5	0.098
		0.028		103	105.5	63.6	2.8	0.695	0.724	103.5	0.104
		0.031		111	107.8	65.9	2.9	0.612	0.626	113.5	0.114

Table XI - DATA OUTPUT PLAN SET III

(h_1-1) ACCEPTANCE RULE

		0.034			100	108.4	67.4		2.0	0.624	0.621		122.0	0.122
		0.037			94	105.0	66.2		2.9	0.448	0.462		110.5	0.111
		0.040			94	104.2	66.2		2.9	0.375	0.390		110.5	0.110
		0.043			86	101.6	66.7		2.9	0.314	0.345		106.0	0.106
		0.046			82	95.8	64.4		2.8	0.259	0.294		81.0	0.081
		0.049			77	88.7	63.3		2.8	0.211	0.236		69.5	0.069
		0.051			74	83.8	60.1		2.6	0.185	0.190		51.0	0.051
		0.054			69	78.6	57.7		2.5	0.151	0.174		40.5	0.041
		0.057			65	75.1	55.3		2.4	0.123	0.144		32.0	0.032
		0.060			61	67.9	53.9		2.4	0.100	0.095		27.0	0.027
0.015	0.97	0.015	179		60	63.4	33.6		1.5	0.950	0.965		21.5	0.022
		0.017			62	68.8	37.1		1.6	0.926	0.947		25.0	0.025
		0.019			65	69.0	37.1		1.6	0.905	0.924		48.0	0.048
		0.022			70	72.9	42.3		1.9	0.863	0.892		66.0	0.066
		0.025			73	76.4	44.1		1.9	0.808	0.836		83.0	0.083
		0.028			74	78.2	47.0		2.1	0.743	0.765		102.5	0.103
		0.031			75	82.8	49.0		2.1	0.678	0.721		116.5	0.117
		0.034			78	82.2	50.5		2.2	0.609	0.651		115.0	0.115
		0.037			79	81.9	50.2		2.2	0.537	0.587		119.0	0.119
		0.040			75	78.9	50.9		2.2	0.473	0.518		103.0	0.103
		0.043			70	80.1	50.8		2.2	0.411	0.452		109.0	0.109
		0.046			68	76.9	50.1		2.2	0.352	0.360		83.5	0.084
		0.049			63	73.7	48.9		2.1	0.309	0.331		81.0	0.081
		0.051			62	70.6	48.6		2.1	0.273	0.287		73.0	0.073
		0.054			59	66.3	47.6		2.1	0.236	0.247		53.0	0.053
		0.057			58	63.5	45.5		2.0	0.199	0.223		47.0	0.047
		0.060			53	61.3	44.0		2.0	0.171	0.171		39.0	0.039
		0.063			50	60.0	43.0		1.9	0.145	0.149		31.0	0.031
		0.066			48	57.2	42.5		1.9	0.128	0.123		21.5	0.022
		0.068			46	53.8	39.5		1.7	0.111	0.117		18.5	0.019
		0.070			44	53.5	38.5		1.7	0.100	0.111		21.0	0.021

Table XII - ASN TESTING , PLAN SET III

(h1-1) ACCEPTANCE RULE

P1	P2	Ps	ASN(Ps)	Plan 03 Mean # Inspected	Difference	Computed t Statistic	t(.05)	Ho: µ1 = µ2 Ha: µ1 < µ2	t(.01)	Ho: µ1 = µ2 Ha: µ1 < µ2
0.015	0.03	0.015	423	434.8	11.62	1.72	-1.646	Accept	-2.328	Accept
		0.016	467	458.0	-9.04	-1.25	-1.646	Accept	-2.328	Accept
		0.018	542	544.9	3.04	0.36	-1.646	Accept	-2.328	Accept
		0.020	565	587.3	22.31	2.49	-1.646	Accept	-2.328	Accept
		0.022	612	603.7	-8.28	-0.87	-1.646	Accept	-2.328	Accept
		0.024	580	574.3	-5.39	-0.59	-1.646	Accept	-2.328	Accept
		0.026	530	542.1	11.69	1.35	-1.646	Accept	-2.328	Accept
		0.028	453	489.3	36.75	4.70	-1.646	Accept	-2.328	Accept
		0.030	403	459.6	56.96	7.52	-1.646	Accept	-2.328	Accept
0.015	0.04	0.015	188	194.0	5.49	1.97	-1.646	Accept	-2.328	Accept
		0.017	210	213.6	4.12	1.33	-1.646	Accept	-2.328	Accept
		0.019	230	226.7	-3.58	-1.04	-1.646	Accept	-2.328	Accept
		0.022	254	259.2	5.56	1.46	-1.646	Accept	-2.328	Accept
		0.025	298	277.6	-20.27	-5.07	-1.646	R	-2.328	R
		0.028	250	260.1	9.76	2.44	-1.646	Accept	-2.328	Accept
		0.031	228	253.7	26.04	6.69	-1.646	Accept	-2.328	Accept
		0.034	207	223.2	15.76	4.48	-1.646	Accept	-2.328	Accept
		0.037	186	204.7	19.06	5.73	-1.646	Accept	-2.328	Accept
		0.040	164	186.0	22.29	7.25	-1.646	Accept	-2.328	Accept
0.015	0.05	0.015	114	117.2	3.24	2.06	-1.646	Accept	-2.328	Accept
		0.017	123	128.7	5.52	3.05	-1.646	Accept	-2.328	Accept
		0.019	132	135.8	4.10	2.12	-1.646	Accept	-2.328	Accept
		0.022	142	147.4	5.01	2.35	-1.646	Accept	-2.328	Accept
		0.025	149	152.4	3.69	1.70	-1.646	Accept	-2.328	Accept
		0.028	153	156.2	3.22	1.39	-1.646	Accept	-2.328	Accept
		0.031	145	157.6	12.93	5.59	-1.646	Accept	-2.328	Accept
		0.034	135	148.8	13.47	5.89	-1.646	Accept	-2.328	Accept
		0.037	132	144.2	12.25	5.58	-1.646	Accept	-2.328	Accept
		0.040	125	136.7	11.73	5.48	-1.646	Accept	-2.328	Accept
		0.042	119	130.7	11.74	5.73	-1.646	Accept	-2.328	Accept
		0.044	110	124.8	14.86	7.37	-1.646	Accept	-2.328	Accept
		0.047	101	116.8	16.11	8.40	-1.646	Accept	-2.328	Accept
		0.050	92	106.4	13.92	8.00	-1.646	Accept	-2.328	Accept
0.015	0.06	0.015	79	83.0	3.54	3.38	-1.646	Accept	-2.328	Accept
		0.017	84	87.8	3.76	3.25	-1.646	Accept	-2.328	Accept
		0.019	89	90.5	1.09	0.89	-1.646	Accept	-2.328	Accept
		0.022	94	101.5	7.65	5.66	-1.646	Accept	-2.328	Accept
		0.025	101	103.2	1.80	1.30	-1.646	Accept	-2.328	Accept
		0.028	103	105.5	2.30	1.62	-1.646	Accept	-2.328	Accept
		0.031	111	107.3	-3.33	-2.26	-1.646	R	-2.328	R

REPRODUCED AT GOVERNMENT EXPENSE

Table XII - ASN TESTING , PLAN SET III

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.034	100	106.4	6.01	3.99	-1.646	Accept	-2.328	Accept
		0.037	94	105.0	10.90	7.33	-1.646	Accept	-2.328	Accept
		0.040	91	104.2	12.83	8.68	-1.646	Accept	-2.328	Accept
		0.043	86	101.6	15.22	10.20	-1.646	Accept	-2.328	Accept
		0.046	82	95.8	13.98	9.71	-1.646	Accept	-2.328	Accept
		0.049	77	93.3	15.90	11.23	-1.646	Accept	-2.328	Accept
		0.051	74	85.5	11.23	8.35	-1.646	Accept	-2.328	Accept
		0.054	69	81.7	12.24	9.48	-1.646	Accept	-2.328	Accept
		0.057	65	77.4	12.30	9.94	-1.646	Accept	-2.328	Accept
		0.060	61	72.8	11.72	9.73	-1.646	Accept	-2.328	Accept
0.015	0.07	0.015	60	62.3	2.26	3.01	-1.646	Accept	-2.328	Accept
		0.017	62	65.6	3.37	4.06	-1.646	Accept	-2.328	Accept
		0.019	65	69.0	3.49	4.20	-1.646	Accept	-2.328	Accept
		0.022	70	72.9	3.07	3.25	-1.646	Accept	-2.328	Accept
		0.025	73	76.4	3.91	3.96	-1.646	Accept	-2.328	Accept
		0.028	74	78.2	4.17	3.97	-1.646	Accept	-2.328	Accept
		0.031	75	82.8	7.33	6.69	-1.646	Accept	-2.328	Accept
		0.034	78	82.2	4.65	4.11	-1.646	Accept	-2.328	Accept
		0.037	79	81.9	2.78	2.48	-1.646	Accept	-2.328	Accept
		0.040	75	78.9	3.87	3.40	-1.646	Accept	-2.328	Accept
		0.043	70	80.1	10.55	9.29	-1.646	Accept	-2.328	Accept
		0.046	68	76.0	8.23	7.35	-1.646	Accept	-2.328	Accept
		0.049	63	73.7	10.69	9.77	-1.646	Accept	-2.328	Accept
		0.051	62	70.6	8.31	7.64	-1.646	Accept	-2.328	Accept
		0.054	59	68.3	9.70	9.11	-1.646	Accept	-2.328	Accept
		0.057	56	63.5	7.53	7.40	-1.646	Accept	-2.328	Accept
		0.060	53	61.3	8.36	8.39	-1.646	Accept	-2.328	Accept
		0.063	50	60.0	9.84	10.24	-1.646	Accept	-2.328	Accept
		0.066	46	57.2	11.30	11.90	-1.646	Accept	-2.328	Accept
		0.068	46	53.8	8.04	9.10	-1.646	Accept	-2.328	Accept
		0.070	44	53.5	9.36	10.59	-1.646	Accept	-2.328	Accept

Table XIII - OC CURVE TESTING , PLAN SET III

(h1-1) ACCEPTANCE RULE

P1	P2	Pa		PLAN 03 Accept @ Pa P2	% Lots Accepted P1		SE(P)		Z Statistic	Z(.05) ± α -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) ± α -	Ho: P1 = P2 Ha: P1 ≠ P2
0.015	0.03	0.015		0.050	0.047		0.005		-0.61	1.960	Accept	2.054	Accept
		0.015		0.028	0.012		0.008		-2.20	1.960	R	2.054	R
		0.015		2.054	0.608		0.009		-2.46	1.960	R	2.054	R
		0.025		2.054	0.608		0.011		-0.15	1.960	Accept	2.054	Accept
		0.022		0.050	0.608		0.011		-1.96	1.960	Accept	2.054	Accept
		0.024		0.375	0.397		0.010		1.99	1.960	R	2.054	Accept
		0.025		0.245	0.241		0.010		-0.45	1.960	Accept	2.054	Accept
		0.025		0.167	0.184		0.008		1.32	1.960	Accept	2.054	Accept
		0.030		0.100	0.153		0.008		2.06	1.960	R	2.054	R
0.015	0.04	0.015		2.054	0.052		0.006		-0.10	1.960	Accept	2.054	Accept
		0.017		0.012	0.017		0.008		0.66	1.960	Accept	2.054	Accept
		0.019		0.050	0.608		0.006		1.32	1.960	Accept	2.054	Accept
		0.022		0.738	0.750		0.010		1.32	1.960	Accept	0.050	Accept
		0.025		0.594	0.608		0.010		1.32	1.960	Accept	2.054	Accept
		0.025		0.442	0.397		0.010		0.31	1.960	R	0.050	R
		0.031		0.319	0.303		0.010		-1.62	1.960	Accept	2.054	Accept
		0.034		0.319	0.229		0.006		1.99	1.960	Accept	2.054	Accept
		0.037		0.167	0.153		0.008		0.72	1.960	Accept	2.054	Accept
		0.040		0.100	0.114		0.006		1.96	1.960	Accept	2.054	Accept
0.015	0.05	0.015		0.050	0.052		0.008		0.31	1.960	Accept	2.054	Accept
		0.017		0.022	0.017		0.006		2.05	1.960	Accept	2.054	Accept
		0.015		2.054	0.061		0.008		2.06	1.960	Accept	2.054	Accept
		0.022		0.808	0.052		0.006		2.05	1.960	R	2.054	R
		0.025		0.711	0.747		0.010		3.65	1.960	R	2.054	R
		0.025		0.812	0.627		0.011		1.32	1.960	Accept	2.054	Accept
		0.031		0.499	0.600		0.011		1.96	1.960	Accept	2.054	Accept
		0.034		0.409	0.608		0.010		-0.55	1.960	Accept	2.054	Accept
		0.037		0.314	0.608		0.010		1.15	1.960	Accept	0.050	Accept
		0.040		0.254	0.250		0.010		-0.45	1.960	Accept	2.054	Accept
		0.042		0.196	0.213		0.006		1.52	1.960	Accept	2.054	Accept
		0.044		0.131	0.144		0.009		1.52	1.960	Accept	2.054	Accept
		0.047		0.131	0.144		0.006		1.52	1.960	Accept	2.054	Accept
		0.050		0.100	0.144		0.007		0.81	1.960	Accept	2.054	Accept
0.015	0.06	0.015		0.050	0.061		0.006		2.27	1.960	R	0.050	R
		0.017		0.028	0.042		0.006		2.08	1.960	R	2.054	R
		0.019		0.050	0.019		0.006		2.00	1.960	R	2.054	R
		0.022		0.050	0.608		0.006		3.10	1.960	R	2.054	R
		0.025		0.777	0.794		0.006		1.32	1.960	Accept	0.050	Accept
		0.028		0.050	0.724		0.011		2.06	1.960	R	2.054	R
		0.031		0.612	0.626		0.011		1.27	1.960	Accept	2.054	Accept

Table XIII - OC CURVE TESTING , PLAN SET III

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.034		0.524	0.521		0.011		-0.27	1.960	Accept	2.054	Accept
		0.057		0.448	0.482		0.011		1.30	1.960	Accept	2.054	Accept
		0.040		0.375	0.390		0.011		1.30	1.960	Accept	2.054	Accept
		0.043		0.314	0.345		0.011		2.90	1.960	R	2.054	R
		0.046		0.259	0.288		0.010		3.45	1.960	R	2.054	R
		0.049		0.211	0.236		0.009		2.81	1.960	R	2.054	R
		0.051		0.123	0.200		0.009		0.57	1.960	Accept	2.054	Accept
		0.054		0.151	0.174		0.008		2.76	1.960	R	2.054	R
		0.057		0.123	0.144		0.008		2.81	1.960	R	2.054	R
		0.060		0.100	0.086		0.008		-0.76	1.960	Accept	2.054	Accept
0.015	0.07	0.015		0.950	0.965		0.006		3.21	1.960	R	2.054	R
		0.017		0.926	0.947		0.005		3.75	1.960	R	2.054	R
		0.019		0.905	0.924		0.006		3.08	1.960	R	2.054	R
		0.022		0.863	0.892		0.007		3.89	1.960	R	2.054	R
		0.025		0.808	0.836		0.009		3.33	1.960	R	2.054	R
		0.028		0.743	0.765		0.010		2.27	1.960	R	2.054	R
		0.031		0.678	0.721		0.010		4.17	1.960	R	2.054	R
		0.034		0.609	0.651		0.011		3.84	1.960	R	2.054	R
		0.037		0.537	0.587		0.011		4.48	1.960	R	2.054	R
		0.040		0.473	0.518		0.011		3.96	1.960	R	2.054	R
		0.043		0.411	0.452		0.011		3.69	1.960	R	2.054	R
		0.046		0.352	0.360		0.011		0.66	1.960	Accept	2.054	Accept
		0.049		0.309	0.331		0.010		2.14	1.960	R	2.054	R
		0.051		0.273	0.287		0.010		1.36	1.960	Accept	2.054	Accept
		0.054		0.238	0.247		0.010		1.06	1.960	Accept	2.054	Accept
		0.057		0.199	0.223		0.009		2.53	1.960	R	2.054	R
		0.060		0.171	0.171		0.008		-0.01	1.960	Accept	2.054	Accept
		0.063		0.145	0.149		0.008		0.41	1.960	Accept	2.054	Accept
		0.066		0.138	0.123		0.008		-2.06	1.960	R	2.054	R
		0.068		0.111	0.117		0.007		0.76	1.960	Accept	2.054	Accept
		0.070		0.100	0.111		0.007		1.53	1.960	Accept	2.054	Accept

Table XIV - DATA OUTPUT PLAN SET IV

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	NCO	ASN(Pa)	Plan 04 Mean # Inspected	Std Dev # Insp.	Mean CI (+ -)	Accept @ Pa	% Lots Accepted	Ave # Times Stop Rule	P(stop rule)
0.02	0.03	0.020	4192	1028	1036.6	816.1	35.8	0.950	0.934	14.5	0.015
		0.021		1163	1099.8	847.0	37.1	0.907	0.898	19.0	0.019
		0.022		1316	1208.8	825.5	40.6	0.846	0.830	20.5	0.021
		0.023		1484	1377.2	1029.1	45.1	0.762	0.729	39.0	0.039
		0.024		1602	1423.2	1036.9	45.4	0.654	0.638	42.5	0.043
		0.026		1461	1419.3	1043.6	45.7	0.405	0.403	37.5	0.038
		0.027		1428	1372.4	1015.3	44.5	0.293	0.304	31.5	0.032
		0.028		1319	1303.8	966.1	42.3	0.207	0.224	29.0	0.029
		0.029		1208	1193.8	899.1	39.4	0.139	0.182	17.5	0.018
		0.030		1073	1151.6	849.3	37.2	0.100	0.138	15.0	0.015
0.02	0.04	0.020	1148	316	313.0	209.8	9.2	0.950	0.947	8.5	0.009
		0.023		387	385.4	263.4	11.6	0.878	0.874	31.5	0.032
		0.027		463	423.3	291.5	12.8	0.683	0.702	54.5	0.055
		0.031		432	465.5	320.1	14.0	0.436	0.454	71.0	0.071
		0.034		401	432.5	297.9	13.1	0.278	0.324	49.5	0.050
		0.037		351	378.5	271.2	11.9	0.167	0.171	31.5	0.032
		0.040		300	325.0	240.2	10.5	0.100	0.108	15.0	0.015
0.02	0.05	0.020	660	165	169.3	111.3	4.9	0.950	0.948	19.0	0.019
		0.025		202	206.8	137.1	6.0	0.853	0.851	45.5	0.046
		0.030		234	224.7	149.0	6.5	0.683	0.674	75.0	0.075
		0.035		238	235.6	157.1	6.9	0.467	0.481	90.5	0.091
		0.040		204	218.3	147.1	6.4	0.293	0.324	58.0	0.058
		0.045		172	192.1	137.1	6.0	0.177	0.178	39.5	0.040
		0.050		146	168.6	121.0	5.3	0.100	0.112	18.0	0.018
0.02	0.06	0.020	356	106	109.5	67.9	3.0	0.950	0.962	19.5	0.020
		0.025		124	129.4	84.1	3.7	0.878	0.893	47.0	0.047
		0.030		138	139.6	93.1	4.1	0.762	0.765	68.5	0.069
		0.035		146	149.7	97.8	4.3	0.612	0.615	80.0	0.080
		0.040		141	147.7	97.3	4.3	0.454	0.461	69.5	0.070
		0.045		130	142.1	99.1	4.3	0.319	0.319	79.0	0.079
		0.050		114	124.0	86.9	3.8	0.224	0.218	39.0	0.039
		0.055		101	109.4	78.6	3.4	0.151	0.142	22.0	0.022
		0.060		89	101.7	76.9	3.4	0.100	0.102	16.5	0.017
0.02	0.07	0.020	243	76	77.1	46.8	2.1	0.950	0.957	21.0	0.021
		0.026		89	92.8	59.0	2.6	0.878	0.889	53.5	0.054
		0.032		98	100.9	64.8	2.8	0.762	0.824	85.5	0.086
		0.038		105	104.8	68.2	3.0	0.618	0.656	100.0	0.100
		0.044		97	104.8	67.2	2.9	0.467	0.504	85.5	0.086
		0.050		89	100.7	67.6	3.0	0.341	0.365	80.0	0.080
		0.055		83	88.3	61.9	2.7	0.250	0.282	48.5	0.049

Table XIV - DATA OUTPUT PLAN SET IV

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.060			75	85.7	60.7		2.7	0.185	0.205		41.5	0.042
		0.065			59	77.2	61.3		2.5	0.137	0.140		28.5	0.029
		0.070			51	69.0	51.3		2.2	0.100	0.090		14.5	0.015
0.02	0.08	0.020	174		59	61.3	35.7		1.6	0.950	0.959		32.5	0.033
		0.025			65	68.2	40.4		1.8	0.902	0.929		50.5	0.051
		0.030			71	73.8	44.9		2.0	0.831	0.852		86.0	0.086
		0.035			73	78.7	47.9		2.1	0.738	0.765		112.0	0.112
		0.040			80	79.8	48.9		2.1	0.643	0.665		116.5	0.117
		0.045			75	78.8	49.3		2.1	0.530	0.561		106.0	0.106
		0.050			71	79.6	50.8		2.2	0.436	0.476		122.0	0.122
		0.055			67	75.0	48.8		2.1	0.347	0.390		100.5	0.101
		0.060			63	70.5	46.5		2.0	0.273	0.283		71.0	0.071
		0.065			58	66.4	46.2		2.0	0.215	0.217		68.0	0.068
		0.070			54	60.8	42.1		1.9	0.164	0.162		37.5	0.038
		0.075			49	59.4	42.2		1.9	0.131	0.125		32.0	0.032
		0.080			46	62.7	38.8		1.7	0.100	0.102		23.5	0.024
0.02	0.09	0.020	137		47	48.9	26.4		1.2	0.950	0.963		27.5	0.028
		0.026			53	54.9	31.8		1.4	0.897	0.911		58.0	0.058
		0.032			56	59.6	34.5		1.5	0.816	0.856		86.0	0.086
		0.038			60	63.6	37.3		1.6	0.725	0.767		114.5	0.115
		0.044			62	63.8	39.5		1.7	0.618	0.661		127.5	0.128
		0.050			63	64.8	39.4		1.7	0.505	0.559		131.5	0.132
		0.056			65	61.7	39.0		1.7	0.411	0.459		104.0	0.104
		0.062			52	58.7	38.2		1.7	0.325	0.354		91.0	0.091
		0.068			48	55.7	37.5		1.6	0.254	0.277		73.5	0.074
		0.074			44	52.2	35.5		1.6	0.189	0.196		54.0	0.054
		0.080			41	47.4	33.7		1.5	0.154	0.171		44.0	0.044
		0.085			38	44.7	32.4		1.4	0.123	0.124		29.0	0.029
		0.090			35	42.1	29.7		1.3	0.100	0.102		20.5	0.021
0.02	0.1	0.020	107		39	41.6	21.9		1.0	0.950	0.965		39.5	0.040
		0.026			43	46.0	24.9		1.1	0.902	0.940		68.0	0.068
		0.032			46	47.8	27.2		1.2	0.835	0.871		97.0	0.097
		0.038			48	50.7	29.1		1.3	0.753	0.787		121.5	0.122
		0.044			50	51.9	30.0		1.3	0.660	0.710		133.5	0.134
		0.050			54	52.8	31.3		1.4	0.567	0.605		151.0	0.151
		0.056			48	51.1	31.1		1.4	0.480	0.502		138.5	0.139
		0.062			44	50.7	31.1		1.4	0.393	0.437		125.5	0.126
		0.068			42	47.4	30.7		1.3	0.319	0.354		104.5	0.105
		0.074			39	44.7	34.5		1.5	0.259	0.268		74.5	0.075
		0.080			36	42.9	29.0		1.3	0.211	0.222		76.0	0.076
		0.085			34	40.7	27.8		1.2	0.174	0.189		52.5	0.053
		0.090			32	39.0	27.7		1.2	0.145	0.155		53.0	0.053
		0.095			30	36.5	25.5		1.1	0.121	0.132		33.0	0.033
		0.100			29	33.8	24.6		1.1	0.100	0.117		26.5	0.027

Table XV - ASN TESTING , PLAN SET IV

(h_1-1) ACCEPTANCE RULE

				Plan 04		Computed				
				Mean #		t		Ho: µ1 = µ2		Ho: µ1 = µ2
P1	P2	Ps	ASN(Ps)	Inspected	Difference	Statistic	t(.05)	Ha: µ1 < µ2	t(.01)	Ha: µ1 < µ2
0.02	0.03	0.020	1028	1036.6	8.95	0.49	-1.646	Accept	-2.328	Accept
		0.021	1163	1099.8	-63.01	-3.33	-1.646	R	-2.328	R
		0.022	1316	1208.8	-106.74	-5.16	-1.646	R	-2.328	R
		0.023	1484	1377.2	-106.82	-4.64	-1.646	R	-2.328	R
		0.024	1502	1423.2	-78.84	-3.40	-1.646	R	-2.328	R
		0.026	1461	1419.3	-41.75	-1.79	-1.646	R	-2.328	Accept
		0.027	1428	1372.4	-55.68	-2.45	-1.646	R	-2.328	R
		0.028	1319	1303.8	-15.01	-0.69	-1.646	Accept	-2.328	Accept
		0.029	1208	1193.8	-14.06	-0.70	-1.646	Accept	-2.328	Accept
		0.030	1073	1151.5	78.58	4.14	-1.646	Accept	-2.328	Accept
0.02	0.04	0.020	315	313.0	-1.78	-0.38	-1.646	Accept	-2.328	Accept
		0.023	387	385.4	-1.76	-0.30	-1.646	Accept	-2.328	Accept
		0.027	463	423.3	-39.35	-6.04	-1.646	R	-2.328	R
		0.031	432	465.5	33.13	4.63	-1.646	Accept	-2.328	Accept
		0.034	401	432.5	31.75	4.77	-1.646	Accept	-2.328	Accept
		0.037	351	378.5	27.23	4.49	-1.646	Accept	-2.328	Accept
		0.040	300	325.0	24.87	4.63	-1.646	Accept	-2.328	Accept
0.02	0.05	0.020	165	169.3	4.57	1.84	-1.646	Accept	-2.328	Accept
		0.025	202	206.8	4.48	1.46	-1.646	Accept	-2.328	Accept
		0.030	234	224.7	-9.18	-2.75	-1.646	R	-2.328	R
		0.035	238	235.6	-2.08	-0.59	-1.646	Accept	-2.328	Accept
		0.040	204	218.3	14.50	4.41	-1.646	Accept	-2.328	Accept
		0.045	172	192.1	20.14	6.57	-1.646	Accept	-2.328	Accept
		0.050	146	168.6	22.15	8.18	-1.646	Accept	-2.328	Accept
0.02	0.06	0.020	106	109.5	3.35	2.20	-1.646	Accept	-2.328	Accept
		0.025	124	129.4	5.48	2.91	-1.646	Accept	-2.328	Accept
		0.030	138	139.6	1.17	0.56	-1.646	Accept	-2.328	Accept
		0.035	146	149.7	3.68	1.69	-1.646	Accept	-2.328	Accept
		0.040	141	147.7	6.26	2.88	-1.646	Accept	-2.328	Accept
		0.045	130	142.1	11.98	5.41	-1.646	Accept	-2.328	Accept
		0.050	114	124.0	9.93	5.11	-1.646	Accept	-2.328	Accept
		0.055	101	109.4	8.51	4.85	-1.646	Accept	-2.328	Accept
		0.060	89	101.7	12.35	7.18	-1.646	Accept	-2.328	Accept
0.02	0.07	0.020	76	77.1	0.62	0.60	-1.646	Accept	-2.328	Accept
		0.026	89	92.8	4.06	3.08	-1.646	Accept	-2.328	Accept
		0.032	98	100.9	3.26	2.25	-1.646	Accept	-2.328	Accept
		0.038	105	104.8	-0.06	-0.04	-1.646	Accept	-2.328	Accept
		0.044	97	104.8	7.55	5.03	-1.646	Accept	-2.328	Accept
		0.050	89	100.7	12.05	7.97	-1.646	Accept	-2.328	Accept
		0.055	83	88.3	5.13	3.71	-1.646	Accept	-2.328	Accept

REPRODUCED AT GOVERNMENT EXPENSE

Table XV- ASN TESTING , PLAN SET IV

(h1-1) ACCEPTANCE RULE

(CONTINUED)

		0.060	75	85.7	10.33	7.61	-1.646	Accept	-2.328	Accept
		0.065	68	77.2	9.37	7.28	-1.646	Accept	-2.328	Accept
		0.070	61	69.0	7.54	6.58	-1.646	Accept	-2.328	Accept
0.02	0.08	0.020	59	61.3	2.45	3.07	-1.646	Accept	-2.328	Accept
		0.025	65	68.2	2.79	3.09	-1.646	Accept	-2.328	Accept
		0.030	71	73.8	3.06	3.05	-1.646	Accept	-2.328	Accept
		0.035	73	78.7	5.73	5.35	-1.646	Accept	-2.328	Accept
		0.040	80	79.8	-0.16	-0.15	-1.646	Accept	-2.328	Accept
		0.045	75	78.8	3.78	3.51	-1.646	Accept	-2.328	Accept
		0.050	71	79.6	9.12	8.03	-1.646	Accept	-2.328	Accept
		0.055	67	75.0	7.50	6.88	-1.646	Accept	-2.328	Accept
		0.060	63	70.5	7.54	7.25	-1.646	Accept	-2.328	Accept
		0.065	58	66.4	8.44	8.17	-1.646	Accept	-2.328	Accept
		0.070	54	60.8	6.80	7.22	-1.646	Accept	-2.328	Accept
		0.075	49	59.4	10.17	10.78	-1.646	Accept	-2.328	Accept
		0.080	46	52.7	7.18	8.32	-1.646	Accept	-2.328	Accept
0.02	0.09	0.020	47	48.9	1.57	2.66	-1.646	Accept	-2.328	Accept
		0.026	53	54.9	2.30	3.24	-1.646	Accept	-2.328	Accept
		0.032	56	59.6	3.92	5.08	-1.646	Accept	-2.328	Accept
		0.038	60	63.6	4.03	4.83	-1.646	Accept	-2.328	Accept
		0.044	62	63.8	1.50	1.70	-1.646	Accept	-2.328	Accept
		0.050	58	64.8	6.83	7.75	-1.646	Accept	-2.328	Accept
		0.056	55	61.7	6.77	7.77	-1.646	Accept	-2.328	Accept
		0.062	52	58.7	6.76	7.93	-1.646	Accept	-2.328	Accept
		0.068	48	55.7	7.52	8.97	-1.646	Accept	-2.328	Accept
		0.074	44	52.2	7.95	10.03	-1.646	Accept	-2.328	Accept
		0.080	41	47.4	6.72	8.92	-1.646	Accept	-2.328	Accept
		0.085	38	44.7	6.57	9.07	-1.646	Accept	-2.328	Accept
		0.090	35	42.1	6.60	9.94	-1.646	Accept	-2.328	Accept
0.02	0.1	0.020	39	41.6	2.18	4.44	-1.646	Accept	-2.328	Accept
		0.026	43	46.0	2.96	5.32	-1.646	Accept	-2.328	Accept
		0.032	46	47.8	1.95	3.21	-1.646	Accept	-2.328	Accept
		0.038	48	50.7	3.00	4.60	-1.646	Accept	-2.328	Accept
		0.044	50	51.9	1.88	2.80	-1.646	Accept	-2.328	Accept
		0.050	54	52.8	-1.47	-2.10	-1.646	R	-2.328	Accept
		0.056	48	51.1	3.11	4.47	-1.646	Accept	-2.328	Accept
		0.062	44	50.7	6.52	9.40	-1.646	Accept	-2.328	Accept
		0.068	42	47.4	5.34	7.78	-1.646	Accept	-2.328	Accept
		0.074	39	44.7	5.48	7.12	-1.646	Accept	-2.328	Accept
		0.080	36	42.9	6.57	10.14	-1.646	Accept	-2.328	Accept
		0.085	34	40.7	6.28	10.11	-1.646	Accept	-2.328	Accept
		0.090	32	39.0	6.65	10.74	-1.646	Accept	-2.328	Accept
		0.095	30	36.5	6.06	10.60	-1.646	Accept	-2.328	Accept
		0.100	29	33.8	5.12	9.32	-1.646	Accept	-2.328	Accept

Table XVI - OC CURVE TESTING , PLAN SET IV

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	PLAN 04 Accept @ Pa P2	% Lots Accepted P1	SE(P)	Z Statistic	Z(.05) + or -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) + or -	Ho: P1 = P2 Ha: P1 ≠ P2
0.02	0.03	0.020	0.950	0.934	0.005	-2.06	1.960	R	2.054	R
		0.021	0.907	0.898	0.007	-1.44	1.960	Accept	2.054	Accept
		0.022	0.846	0.830	0.008	-1.95	1.960	Accept	2.054	Accept
		0.023	0.762	0.729	0.010	-3.44	1.960	R	2.054	R
		0.024	0.654	0.638	0.011	-1.54	1.960	Accept	2.054	Accept
		0.026	0.405	0.403	0.011	-0.19	1.960	Accept	2.054	Accept
		0.027	0.293	0.304	0.010	1.06	1.960	Accept	2.054	Accept
		0.028	0.207	0.224	0.009	1.77	1.960	Accept	2.054	Accept
		0.029	0.139	0.182	0.008	5.12	1.960	R	2.054	R
		0.030	0.100	0.138	0.007	5.25	1.960	R	2.054	R
0.02	0.04	0.020	0.950	0.947	0.005	-0.61	1.960	Accept	2.054	Accept
		0.023	0.876	0.874	0.007	-0.25	1.960	Accept	2.054	Accept
		0.027	0.683	0.702	0.010	1.75	1.960	Accept	2.054	Accept
		0.031	0.436	0.454	0.011	1.65	1.960	Accept	2.054	Accept
		0.034	0.278	0.324	0.010	4.42	1.960	R	2.054	R
		0.037	0.167	0.171	0.008	0.40	1.960	Accept	2.054	Accept
		0.040	0.100	0.108	0.007	1.10	1.960	Accept	2.054	Accept
0.02	0.05	0.020	0.950	0.948	0.005	-0.51	1.960	Accept	2.054	Accept
		0.025	0.853	0.851	0.008	-0.31	1.960	Accept	2.054	Accept
		0.030	0.683	0.674	0.010	-0.90	1.960	Accept	2.054	Accept
		0.035	0.467	0.481	0.011	1.26	1.960	Accept	2.054	Accept
		0.040	0.293	0.324	0.010	2.93	1.960	R	2.054	R
		0.045	0.177	0.178	0.009	0.01	1.960	Accept	2.054	Accept
		0.050	0.100	0.112	0.007	1.67	1.960	Accept	2.054	Accept
0.02	0.06	0.020	0.950	0.962	0.005	2.60	1.960	R	2.054	R
		0.025	0.878	0.893	0.007	2.07	1.960	R	2.054	R
		0.030	0.762	0.765	0.009	0.27	1.960	Accept	2.054	Accept
		0.035	0.612	0.615	0.011	0.21	1.960	Accept	2.054	Accept
		0.040	0.454	0.461	0.011	0.55	1.960	Accept	2.054	Accept
		0.045	0.318	0.318	0.010	-0.03	1.960	Accept	2.054	Accept
		0.050	0.224	0.218	0.009	-0.60	1.960	Accept	2.054	Accept
		0.055	0.151	0.142	0.008	-1.17	1.960	Accept	2.054	Accept
		0.060	0.100	0.102	0.007	0.30	1.960	Accept	2.054	Accept
0.02	0.07	0.020	0.950	0.957	0.005	1.38	1.960	Accept	2.054	Accept
		0.026	0.878	0.889	0.007	1.42	1.960	Accept	2.054	Accept
		0.032	0.762	0.624	0.010	-13.43	1.960	R	2.054	R
		0.038	0.618	0.656	0.011	3.51	1.960	R	2.054	R
		0.044	0.467	0.504	0.011	3.28	1.960	R	2.054	R
		0.050	0.341	0.365	0.011	2.18	1.960	R	2.054	R
		0.055	0.250	0.282	0.010	3.21	1.960	R	2.054	R

Table XVI - OC CURVE TESTING , PLAN SET IV

(h1-1) ACCEPTANCE RULE

(CONTINUED)

		0.060	0.188	0.852	0.009	2.79	1.960	R	2.054	R
		0.065	0.137	0.140	0.009	0.14	1.960	Accept	2.054	Accept
		0.070	0.100	0.090	0.009	-1.53	1.960	Accept	2.054	Accept
0.02	0.08	0.020	0.952	0.985	0.009	1.83	1.960	Accept	2.054	Accept
		0.025	0.902	0.929	0.008	4.21	1.960	R	2.054	R
		0.030	0.831	0.852	0.009	2.82	1.960	R	2.054	R
		0.035	0.738	0.765	0.010	2.79	1.960	R	2.054	R
		0.040	0.643	0.685	0.011	4.02	1.960	R	2.054	R
		0.045	0.536	0.561	0.011	2.79	1.960	R	2.054	R
		0.050	0.426	0.475	0.011	3.86	1.960	R	2.054	R
		0.055	0.347	0.380	0.011	3.86	1.960	R	2.054	R
		0.060	0.273	0.352	0.010	0.86	1.960	Accept	2.054	Accept
		0.065	0.213	0.217	0.009	0.14	1.960	Accept	2.054	Accept
		0.070	0.164	0.182	0.008	-0.29	1.960	Accept	2.054	Accept
		0.075	0.131	0.125	0.007	-0.89	1.960	Accept	2.054	Accept
		0.080	0.100	0.102	0.007	0.90	1.960	Accept	2.054	Accept
0.02	0.09	0.020	0.950	0.963	0.005	2.85	1.960	R	2.054	R
		0.026	0.897	0.911	0.008	2.07	1.960	R	2.054	R
		0.032	0.816	0.863	0.009	3.86	1.960	R	2.054	R
		0.038	0.725	0.767	0.010	3.86	1.960	R	2.054	R
		0.044	0.616	0.661	0.011	3.86	1.960	R	2.054	R
		0.050	0.505	0.559	0.011	4.05	1.960	R	2.054	R
		0.056	0.411	0.459	0.011	4.32	1.960	R	2.054	R
		0.062	0.325	0.354	0.011	2.72	1.960	R	2.054	R
		0.068	0.264	0.277	0.010	2.29	1.960	R	2.054	R
		0.074	0.199	0.196	0.009	-0.38	1.960	Accept	2.054	Accept
		0.080	0.164	0.171	0.008	1.86	1.960	Accept	2.054	Accept
		0.085	0.123	0.124	0.007	0.03	1.960	Accept	2.054	Accept
		0.090	0.100	0.102	0.007	0.30	1.960	Accept	2.054	Accept
0.02	0.1	0.020	0.950	0.965	0.005	3.33	1.960	R	2.054	R
		0.026	0.902	0.940	0.006	6.16	1.960	R	2.054	R
		0.032	0.835	0.871	0.008	4.46	1.960	R	2.054	R
		0.038	0.753	0.787	0.009	3.59	1.960	R	2.054	R
		0.044	0.660	0.710	0.010	4.78	1.960	R	2.054	R
		0.050	0.567	0.605	0.011	3.44	1.960	R	2.054	R
		0.056	0.480	0.502	0.011	1.97	1.960	R	2.054	Accept
		0.062	0.393	0.437	0.011	3.99	1.960	R	2.054	R
		0.068	0.319	0.354	0.011	3.24	1.960	R	2.054	R
		0.074	0.259	0.268	0.010	0.86	1.960	Accept	2.054	Accept
		0.080	0.211	0.222	0.009	1.17	1.960	Accept	2.054	Accept
		0.085	0.174	0.189	0.009	1.75	1.960	Accept	2.054	Accept
		0.090	0.145	0.155	0.008	1.16	1.960	Accept	2.054	Accept
		0.095	0.121	0.132	0.007	1.45	1.960	Accept	2.054	Accept
		0.100	0.100	0.117	0.007	2.37	1.960	R	2.054	R

Table XVII - OC TESTING , PLAN SET I

EXTENDED (h1-1) ACCEPTANCE RULE

P1	P2	Pa		Accept @ Pa		NTP	Tuncation m=1 Hold ∞	Pr(acc) Actual		Pr(acc) NTP		Tuncation m=1 Hold 0	Pr(acc) Actual	
0.005	0.01	0.005		0.950		4605	4346	0.912		0.909		4352	0.928	
		0.006		0.828		4605	4346	0.766		0.754		4352	0.826	
		0.007		0.624		4605	4346	0.573		0.569		4352	0.607	
		0.008		0.375		4605	4346	0.406		0.404		4352	0.439	
		0.009		0.203		4605	4346	0.208		0.209		4352	0.247	
		0.010		0.100		4605	4346	0.121		0.119		4352	0.134	
0.005	0.02	0.006		0.909		702	530	0.900		0.926		579	0.985	
		0.008		0.795		702	530	0.765		0.792		579	0.760	
		0.010		0.637		702	530	0.648		0.688		578	0.586	
		0.012		0.467		702	530	0.478		0.497		579	0.429	
		0.014		0.330		702	530	0.363		0.373		579	0.339	
		0.016		0.224		702	530	0.267		0.266		579	0.252	
		0.018		0.148		702	530	0.173		0.175		579	0.185	
		0.020		0.100		702	530	0.128		0.122		579	0.115	
0.005	0.03	0.005		0.950		375	163	0.952		0.956		218	0.924	
		0.007		0.892		375	163	0.892		0.824		219	0.869	
		0.010		0.767		375	163	0.757		0.766		218	0.715	
		0.013		0.609		375	163	0.646		0.650		216	0.550	
		0.016		0.467		375	163	0.533		0.515		216	0.424	
		0.019		0.341		375	163	0.442		0.405		218	0.329	
		0.022		0.245		375	163	0.343		0.268		218	0.240	
		0.025		0.179		375	163	0.257		0.213		218	0.169	
		0.028		0.129		375	163	0.189		0.141		216	0.114	
		0.030		0.100		375	163	0.175		0.120		216	0.109	
0.005	0.04	0.005		0.950		182	71	0.950		0.977		116	0.989	
		0.007		0.905		182	71	0.911		0.931		116	0.945	
		0.010		0.812		182	71	0.847		0.861		116	0.756	
		0.013		0.706		182	71	0.773		0.781		116	0.624	
		0.016		0.594		182	71	0.687		0.661		116	0.530	
		0.019		0.492		182	71	0.642		0.610		116	0.425	
		0.022		0.399		182	71	0.548		0.471		116	0.337	
		0.025		0.319		182	71	0.460		0.386		116	0.276	
		0.028		0.254		182	71	0.419		0.333		116	0.252	
		0.031		0.199		182	71	0.359		0.250		116	0.182	
		0.034		0.159		182	71	0.295		0.195		116	0.152	
		0.037		0.125		182	71	0.262		0.149		116	0.145	
		0.040		0.100		182	71	0.221		0.129		116	0.111	
0.005	0.05	0.005		0.950		151	76	0.965		0.981		86	0.943	
		0.008		0.891		151	76	0.881		0.933		86	0.843	
		0.011		0.801		151	76	0.815		0.873		86	0.659	

Table XVII - OC TESTING , PLAN SET I

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014		0.725		151	76	0.697		0.774		86	0.797	
		0.017		0.640		151	76	0.659		0.708		86	0.671	
		0.020		0.553		151	76	0.576		0.644		86	0.593	
		0.023		0.473		151	76	0.534		0.574		86	0.525	
		0.026		0.399		151	76	0.479		0.491		86	0.445	
		0.029		0.330		151	76	0.400		0.413		86	0.349	
		0.032		0.286		151	76	0.326		0.329		86	0.283	
		0.035		0.241		151	76	0.309		0.303		86	0.257	
		0.038		0.203		151	76	0.298		0.285		86	0.233	
		0.041		0.171		151	76	0.239		0.214		86	0.190	
		0.044		0.142		151	76	0.192		0.167		86	0.163	
		0.047		0.119		151	76	0.174		0.157		86	0.150	
		0.050		0.100		151	76	0.114		0.101		86	0.116	
0.005	0.06	0.005		0.950		125	83	0.962		0.994		83	0.949	
		0.009		0.876		129	83	0.874		0.931		83	0.885	
		0.013		0.796		129	83	0.756		0.857		83	0.775	
		0.017		0.695		129	83	0.667		0.765		83	0.702	
		0.021		0.600		129	83	0.608		0.716		83	0.575	
		0.025		0.499		129	83	0.504		0.594		83	0.471	
		0.029		0.423		129	83	0.424		0.502		83	0.441	
		0.033		0.352		129	83	0.376		0.439		83	0.374	
		0.037		0.293		129	83	0.304		0.368		83	0.278	
		0.041		0.245		129	83	0.244		0.285		83	0.229	
		0.045		0.203		129	83	0.203		0.239		83	0.180	
		0.049		0.167		129	83	0.154		0.182		83	0.148	
		0.053		0.137		129	83	0.121		0.135		83	0.130	
		0.057		0.116		129	83	0.129		0.137		83	0.129	
		0.060		0.100		129	83	0.120		0.127		83	0.100	
0.005	0.07	0.005		0.950		74	71	0.962		0.954		71	0.959	
		0.010		0.866		74	71	0.878		0.939		71	0.883	
		0.015		0.767		74	71	0.796		0.873		71	0.792	
		0.020		0.669		74	71	0.664		0.760		71	0.670	
		0.025		0.561		74	71	0.585		0.707		71	0.569	
		0.030		0.464		74	71	0.503		0.617		71	0.492	
		0.035		0.397		74	71	0.399		0.504		71	0.416	
		0.040		0.321		74	71	0.302		0.404		71	0.323	
		0.045		0.269		74	71	0.251		0.330		71	0.290	
		0.050		0.219		74	71	0.217		0.285		71	0.239	
		0.055		0.181		74	71	0.191		0.243		71	0.181	
		0.060		0.148		74	71	0.159		0.217		71	0.126	
		0.065		0.121		74	71	0.114		0.165		71	0.115	
		0.070		0.100		74	71	0.119		0.141		71	0.114	

Table XVIII - OC TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

					Tuncation			Tuncation	
			Accept	NTP	m=1	Pr(acc)	Pr(acc)	m=1	Pr(acc)
P1	P2	Ps	@ Ps		Hold α	Actual	NTP	Hold β	Actual
0.01	0.03	0.010	0.950	714	603	0.937	0.967	570	0.935
		0.012	0.895	714	603	0.870	0.917	570	0.858
		0.014	0.812	714	603	0.789	0.852	570	0.772
		0.016	0.708	714	603	0.692	0.732	570	0.673
		0.018	0.561	714	603	0.565	0.588	570	0.578
		0.020	0.448	714	603	0.443	0.475	570	0.446
		0.022	0.352	714	603	0.332	0.331	570	0.376
		0.024	0.250	714	603	0.251	0.294	570	0.256
		0.026	0.188	714	603	0.187	0.174	570	0.187
		0.028	0.139	714	603	0.156	0.158	570	0.151
		0.030	1.000	714	603	0.112	0.124	570	0.097
0.01	0.04	0.010	0.950	350	265	0.945	0.969	281	0.948
		0.013	0.864	350	265	0.894	0.897	281	0.878
		0.016	0.780	350	265	0.778	0.800	281	0.742
		0.019	0.683	350	265	0.678	0.692	281	0.668
		0.022	0.549	350	265	0.568	0.568	281	0.527
		0.025	0.436	350	265	0.444	0.435	281	0.422
		0.028	0.325	350	265	0.328	0.356	281	0.356
		0.031	0.250	350	265	0.261	0.283	281	0.248
		0.034	0.185	350	265	0.212	0.189	281	0.187
		0.037	0.137	350	265	0.189	0.147	281	0.150
		0.040	0.100	350	265	0.102	0.097	281	0.105
0.01	0.05	0.010	0.950	215	138	0.956	0.954	164	0.933
		0.013	0.900	215	138	0.895	0.927	164	0.849
		0.016	0.828	215	138	0.823	0.866	164	0.776
		0.019	0.743	215	138	0.757	0.791	164	0.702
		0.022	0.654	215	138	0.660	0.733	164	0.620
		0.025	0.563	215	138	0.623	0.630	164	0.571
		0.028	0.467	215	138	0.490	0.510	164	0.485
		0.031	0.387	215	138	0.421	0.424	164	0.427
		0.034	0.303	215	138	0.330	0.337	164	0.300
		0.037	0.254	215	138	0.311	0.289	164	0.234
		0.040	0.203	215	138	0.212	0.217	164	0.185
		0.042	0.177	215	138	0.189	0.184	164	0.192
		0.044	0.154	215	138	0.161	0.157	164	0.158
		0.047	0.125	215	138	0.158	0.148	164	0.108
		0.050	0.100	215	138	0.126	0.135	164	0.088
0.01	0.06	0.010	0.950	151	82	0.943	0.974	106	0.910
		0.013	0.899	151	82	0.914	0.952	106	0.868
		0.016	0.855	151	82	0.866	0.893	106	0.823

Table XVIII - OC TESTING , PLAN SET II
EXTENDED (h1-1) ACCEPTANCE RULE
(CONTINUED)

		0.019		0.766		151	92	0.794		0.619		106	0.759	
		0.022		0.711		151	92	0.755		0.759		106	0.676	
		0.025		0.643		151	92	0.676		0.675		106	0.605	
		0.026		0.565		151	92	0.612		0.609		106	0.616	
		0.031		0.466		151	92	0.516		0.515		106	0.478	
		0.035		0.402		151	92	0.477		0.426		106	0.375	
		0.040		0.306		151	92	0.361		0.353		106	0.278	
		0.043		0.284		151	92	0.326		0.290		106	0.254	
		0.046		0.224		151	92	0.326		0.250		106	0.222	
		0.049		0.195		151	92	0.279		0.213		106	0.182	
		0.051		0.167		151	92	0.202		0.186		106	0.161	
		0.054		0.142		151	92	0.232		0.160		106	0.101	
		0.057		0.119		151	92	0.174		0.114		106	0.129	
		0.060		0.100		151	92	0.156		0.079		106	0.111	
0.01	0.07	0.010		0.950		133	94	0.947		0.866		91	0.934	
		0.015		0.885		133	94	0.871		0.924		91	0.877	
		0.020		0.786		133	94	0.770		0.857		91	0.794	
		0.025		0.700		133	94	0.664		0.752		91	0.680	
		0.030		0.587		133	94	0.595		0.643		91	0.533	
		0.035		0.496		133	94	0.501		0.536		91	0.466	
		0.040		0.393		133	94	0.425		0.447		91	0.380	
		0.045		0.309		133	94	0.349		0.340		91	0.308	
		0.050		0.250		133	94	0.270		0.270		91	0.251	
		0.055		0.199		133	94	0.241		0.210		91	0.183	
		0.060		0.162		133	94	0.197		0.166		91	0.170	
		0.065		0.126		133	94	0.912		0.130		91	0.133	
		0.070		0.100		133	94	0.120		0.111		91	0.102	
0.01	0.08	0.010		0.950		90	36	0.946		0.973		57	0.905	
		0.015		0.892		90	36	0.897		0.921		57	0.853	
		0.020		0.808		90	36	0.831		0.855		57	0.739	
		0.025		0.727		90	36	0.796		0.811		57	0.646	
		0.030		0.613		90	36	0.708		0.714		57	0.557	
		0.035		0.543		90	36	0.663		0.613		57	0.480	
		0.040		0.454		90	36	0.604		0.524		57	0.394	
		0.045		0.387		90	36	0.555		0.490		57	0.332	
		0.050		0.319		90	36	0.479		0.380		57	0.288	
		0.055		0.241		90	36	0.407		0.336		57	0.230	
		0.060		0.224		90	36	0.351		0.274		57	0.212	
		0.065		0.185		90	36	0.323		0.205		57	0.151	
		0.070		0.151		90	36	0.263		0.152		57	0.129	
		0.075		0.123		90	36	0.243		0.146		57	0.115	
		0.080		0.100		90	36	0.231		0.135		57	0.091	

Table XIX - ASN TESTING , PLAN SET I
EXTENDED (h_1-1) ACCEPTANCE RULE

P1	P2	Pa		ASN(Pa)		Hold α Mean # Insp	NTP Mean # Insp	Hold β Mean # Insp				Hold α # Saved over NTP	Hold β # Saved over NTP	
0.005	0.01	0.005		1287		1309.2	1322.6	1303.4				13.3	19.2	
		0.006		1603		1609.2	1622.9	1518.9				13.7	104.0	
		0.007		2085		1679.7	1695.5	1758.4				15.8	-62.8	
		0.008		1764		1681.9	1694.2	1728.6				12.3	-34.5	
		0.009		1465		1486.5	1496.8	1501.5				10.3	-4.8	
		0.010		1225		1317.2	1323.4	1306.5				6.2	16.9	
0.005	0.02	0.006		264		269.0	277.5	273.0				8.5	4.5	
		0.008		301		288.7	302.4	281.3				13.7	21.1	
		0.010		325		307.6	329.1	312.8				21.5	16.3	
		0.012		302		300.9	318.1	303.1				17.2	15.0	
		0.014		270		277.2	298.0	293.5				20.8	4.5	
		0.016		241		264.7	288.8	272.5				24.1	16.3	
		0.018		213		240.1	252.5	244.0				12.4	8.5	
		0.020		186		210.8	224.5	220.1				13.7	4.4	
0.005	0.03	0.005		122		110.4	124.3	119.9				13.9	4.4	
		0.007		134		115.9	144.4	127.6				28.5	16.8	
		0.010		146		121.9	155.8	139.3				33.9	16.5	
		0.013		150		122.2	163.2	137.2				41.0	26.0	
		0.016		138		116.1	154.6	135.5				38.5	19.1	
		0.019		126		113.4	146.8	128.1				33.4	18.7	
		0.022		113		109.0	136.0	119.4				27.0	16.6	
		0.025		100		98.7	123.4	108.2				24.7	15.2	
		0.028		88		92.0	107.6	97.1				15.6	10.5	
		0.030		82		90.9	102.1	97.6				11.2	4.5	
0.005	0.04	0.005		80		64.7	79.8	75.4				15.1	4.4	
		0.007		84		64.5	86.8	78.4				22.3	8.4	
		0.010		88		64.0	95.1	80.5				31.1	14.6	
		0.013		89		63.1	94.9	81.8				31.8	13.1	
		0.016		85		61.7	96.6	82.1				34.9	14.5	
		0.019		83		61.4	93.6	78.8				32.2	14.8	
		0.022		79		58.8	90.4	76.2				31.6	14.2	
		0.025		74		57.4	88.1	72.6				30.7	15.5	
		0.028		68		54.5	79.7	71.7				25.2	8.0	
		0.031		63		54.6	76.9	66.8				22.3	10.1	
		0.034		58		50.8	71.3	63.4				20.5	7.9	
		0.037		53		48.5	66.7	59.9				18.2	6.8	
		0.040		49		46.6	61.1	57.6				14.5	3.5	
0.005	0.05	0.005		66		53.8	60.3	57.2				6.5	3.1	
		0.008		62		55.0	67.5	61.4				12.5	6.1	
		0.011		63		56.5	71.1	62.5				14.6	8.6	

Table XIX - ASN TESTING , PLAN SET I

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014		65		56.3	70.9	64.0				14.6	6.9	
		0.017		67		55.4	72.1	62.0				16.7	10.1	
		0.020		70		56.0	71.8	61.6				15.8	10.2	
		0.023		62		53.3	70.7	62.0				17.4	8.7	
		0.026		57		53.5	69.0	59.0				15.5	10.0	
		0.029		55		52.0	66.3	56.6				14.3	9.7	
		0.032		49		49.8	63.8	55.4				14.0	8.4	
		0.035		46		49.1	60.4	52.8				11.3	7.6	
		0.038		43		47.4	56.7	51.0				9.3	5.7	
		0.041		41		45.1	52.2	48.0				7.1	4.2	
		0.044		38		43.8	49.0	47.1				5.2	1.9	
		0.047		36		41.7	45.5	43.2				3.8	2.3	
		0.050		34		39.2	42.3	40.5				3.1	1.8	
0.005	0.06	0.005		46		46.9	48.8	47.4				1.9	1.4	
		0.009		48		48.9	53.5	49.6				4.6	3.9	
		0.013		49		52.0	56.8	51.9				4.8	4.9	
		0.017		50		52.0	58.0	51.7				6.0	6.3	
		0.021		56		51.6	58.2	50.6				6.6	7.6	
		0.025		49		49.1	56.6	51.3				7.5	5.3	
		0.029		43		49.6	55.1	48.9				5.5	6.2	
		0.033		40		46.4	51.0	48.9				4.6	2.1	
		0.037		38		45.8	50.8	45.2				5.0	5.6	
		0.041		35		42.8	46.5	43.9				3.7	2.6	
		0.045		33		41.1	44.3	40.6				3.2	3.7	
		0.049		31		39.4	42.3	39.3				2.9	3.0	
		0.053		29		36.5	38.4	36.5				1.9	1.9	
		0.057		27		34.1	35.7	34.9				1.6	0.8	
		0.060		25		33.9	35.0	32.5				1.1	2.5	
0.005	0.07	0.005		37		39.6	40.2	39.6				0.5	0.6	
		0.010		39		42.1	42.8	43.0				0.7	-0.2	
		0.015		40		43.5	44.2	43.5				0.8	0.8	
		0.020		41		43.5	44.3	43.0				0.8	1.3	
		0.025		42		43.3	44.2	43.3				0.9	0.9	
		0.030		38		43.2	44.0	41.7				0.8	2.3	
		0.035		34		40.1	40.8	40.3				0.6	0.5	
		0.040		31		38.3	38.8	39.0				0.5	-0.2	
		0.045		28		37.2	37.7	37.3				0.5	0.4	
		0.050		27		34.8	35.2	35.1				0.4	0.2	
		0.055		25		32.1	32.4	33.8				0.3	-1.4	
		0.060		23		33.0	33.3	31.9				0.3	1.4	
		0.065		21		29.0	29.2	29.8				0.2	-0.6	
		0.070		20		27.4	27.5	27.3				0.1	0.2	

Table XX - ASN TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

P1	P2	P_s	ASN(P_s)	Hold α Mean # Insp	NTP Mean # Insp	Hold β Mean # Insp	Hold α # Saved over NTP	Hold β # Saved over NTP
0.01	0.03	0.010	217	218.0	216.8	225.4	-1.2	-8.6
		0.012	245	246.7	243.6	249.8	-3.1	-6.2
		0.014	271	269.1	264.3	266.6	-4.8	-2.3
		0.016	295	271.7	294.7	277.3	23.0	17.4
		0.018	303	291.0	307.0	292.9	16.0	14.1
		0.020	298	284.0	300.3	284.5	16.3	15.8
		0.022	267	269.5	298.2	271.0	28.7	27.2
		0.024	250	256.5	264.6	254.6	8.1	10.0
		0.026	222	243.6	246.2	236.3	2.6	9.9
		0.028	199	236.3	216.4	216.8	-19.9	-0.4
		0.030	181	206.7	205.0	192.3	-1.7	12.7
0.01	0.04	0.010	121	116.8	121.5	122.6	4.7	-1.1
		0.013	134	132.7	134.7	135.5	2.1	-0.8
		0.016	145	142.9	154.6	146.7	11.6	7.9
		0.019	162	145.5	161.7	153.7	16.2	8.0
		0.022	165	148.5	166.3	152.5	17.8	13.8
		0.025	150	150.3	160.5	148.1	10.2	12.4
		0.028	138	138.4	155.1	143.7	16.6	11.4
		0.031	123	136.2	141.5	133.7	5.3	7.8
		0.034	112	121.9	132.3	123.5	10.4	8.8
		0.037	102	107.8	116.9	114.8	9.1	2.1
		0.040	92	101.6	107.1	104.3	5.4	2.9
0.01	0.05	0.010	81	78.8	87.0	82.0	8.2	5.0
		0.013	86	82.5	90.2	86.7	7.7	3.5
		0.016	92	87.3	98.2	93.0	10.9	5.2
		0.019	94	88.8	102.1	94.8	13.3	7.3
		0.022	97	90.9	104.3	98.5	13.4	5.8
		0.025	98	91.2	106.1	96.7	14.9	9.5
		0.028	99	88.1	106.2	95.1	18.1	11.0
		0.031	91	86.6	99.4	92.5	12.8	6.9
		0.034	90	84.7	95.5	90.8	10.7	4.7
		0.037	83	82.8	93.1	85.6	10.3	7.6
		0.040	75	75.9	88.6	83.7	12.7	4.9
		0.042	71	75.2	82.1	80.3	6.9	1.8
		0.044	67	70.5	79.9	76.7	9.4	3.2
		0.047	62	67.4	77.2	69.7	9.8	7.5
		0.050	58	69.3	68.8	68.9	-0.5	-0.2
0.01	0.06	0.010	60	54.9	61.5	60.2	6.6	1.3
		0.013	63	57.7	68.0	61.9	10.3	6.1
		0.016	66	59.6	70.0	64.7	10.4	5.3

Table XX - ASN TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.019		70		60.3	75.2	67.2				14.9	8.0	
		0.022		72		60.9	75.6	66.0				14.6	7.7	
		0.025		76		60.2	74.4	67.6				14.2	6.9	
		0.028		80		58.9	78.6	66.2				17.0	10.7	
		0.031		76		56.9	77.0	68.6				17.1	10.2	
		0.035		65		58.4	73.6	64.6				16.3	9.2	
		0.040		60		54.2	68.1	61.2				14.8	7.8	
		0.043		56		53.7	66.8	57.7				12.3	6.3	
		0.046		53		53.6	63.7	57.2				8.6	6.6	
		0.049		51		50.5	59.6	56.8				8.2	3.1	
		0.051		49		49.3	57.6	54.2				6.5	3.8	
		0.054		46		48.0	54.5	51.8				8.4	2.7	
		0.057		43		46.5	52.0	47.6				5.5	4.5	
		0.060		41		42.4	47.2	46.4				4.8	0.7	
0.01	0.07	0.010		47		46.2	48.6	48.3				2.6	0.5	
		0.015		52		50.8	54.6	50.3				4.0	4.6	
		0.020		55		53.0	58.6	54.2				5.6	4.6	
		0.025		58		54.3	61.6	55.6				7.2	5.8	
		0.030		57		52.5	61.6	55.3				8.1	6.3	
		0.035		55		52.1	58.5	53.3				7.4	6.2	
		0.040		46		50.6	57.8	52.5				6.8	5.0	
		0.045		47		46.0	54.4	48.3				5.4	5.1	
		0.050		43		46.4	50.2	48.7				0.6	1.5	
		0.055		39		45.0	48.8	44.5				1.8	2.4	
		0.060		36		41.8	45.6	43.1				3.8	2.5	
		0.065		33		38.4	42.6	39.5				4.4	3.3	
		0.070		31		36.4	38.5	36.1				2.2	2.4	
0.01	0.08	0.010		39		32.0	38.7	37.2				7.7	2.5	
		0.015		42		32.2	43.2	38.6				11.1	4.7	
		0.020		43		31.9	46.9	38.5				15.1	7.4	
		0.025		44		32.1	46.6	40.2				14.7	8.6	
		0.030		46		31.6	47.7	40.1				16.2	7.8	
		0.035		48		30.8	46.7	40.1				16.0	8.6	
		0.040		44		30.0	48.3	38.7				18.3	8.6	
		0.045		39		28.6	44.3	36.7				14.7	7.7	
		0.050		37		28.9	43.6	36.6				14.9	7.2	
		0.055		35		27.6	41.3	34.5				13.6	5.8	
		0.060		32		27.4	38.1	32.7				10.7	5.4	
		0.065		30		26.7	37.1	32.3				10.4	4.7	
		0.070		28		24.6	35.6	29.6				10.8	6.0	
		0.075		26		24.5	32.6	28.3				8.1	3.3	
		0.080		25		23.6	29.8	27.4				6.8	2.8	

APPENDIX C

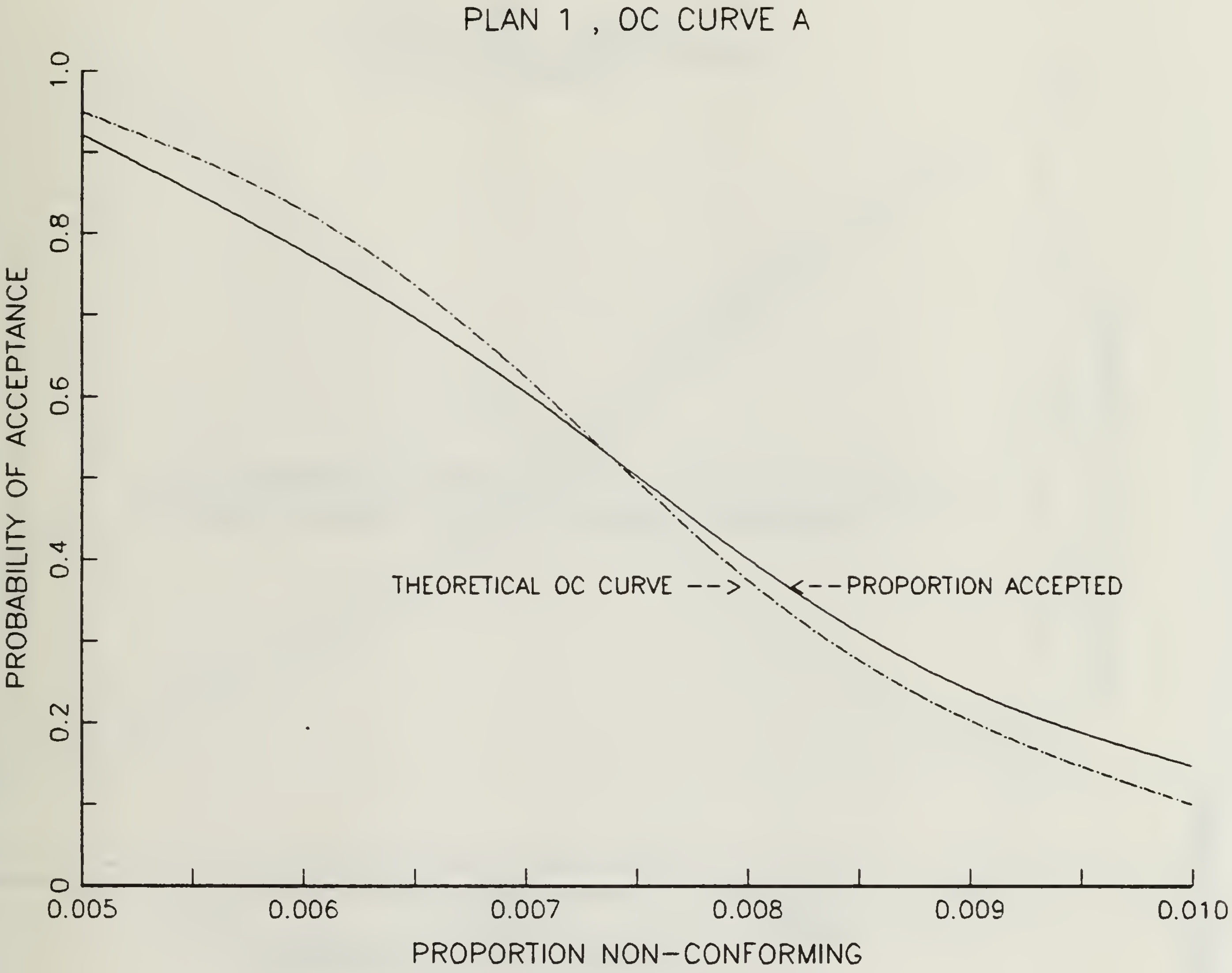


Figure 8 - OC CURVE , PLAN SET I , CURVE A

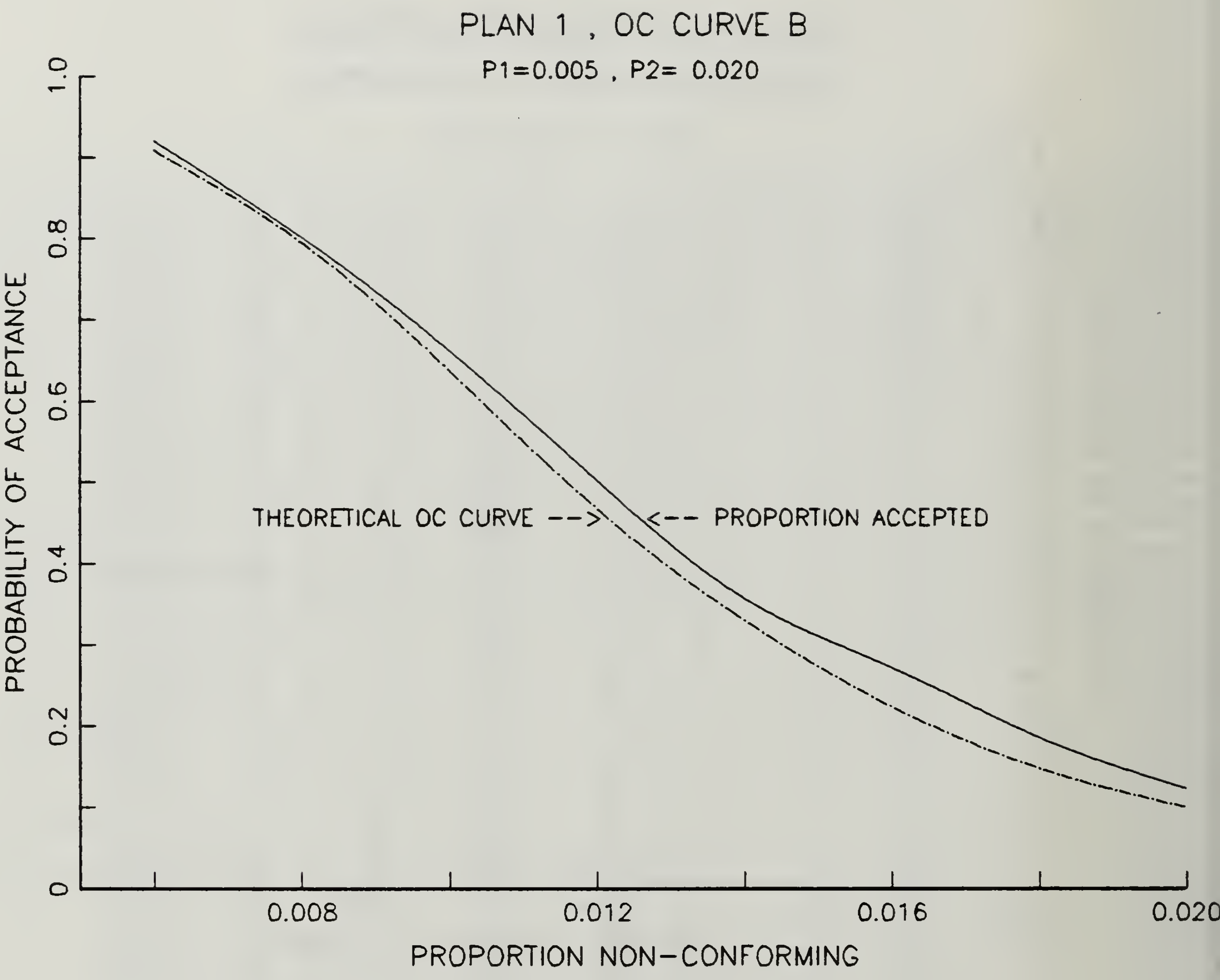


Figure 9 - OC CURVE , PLAN SET I , CURVE B

REPRODUCED AT GOVERNMENT EXPENSE

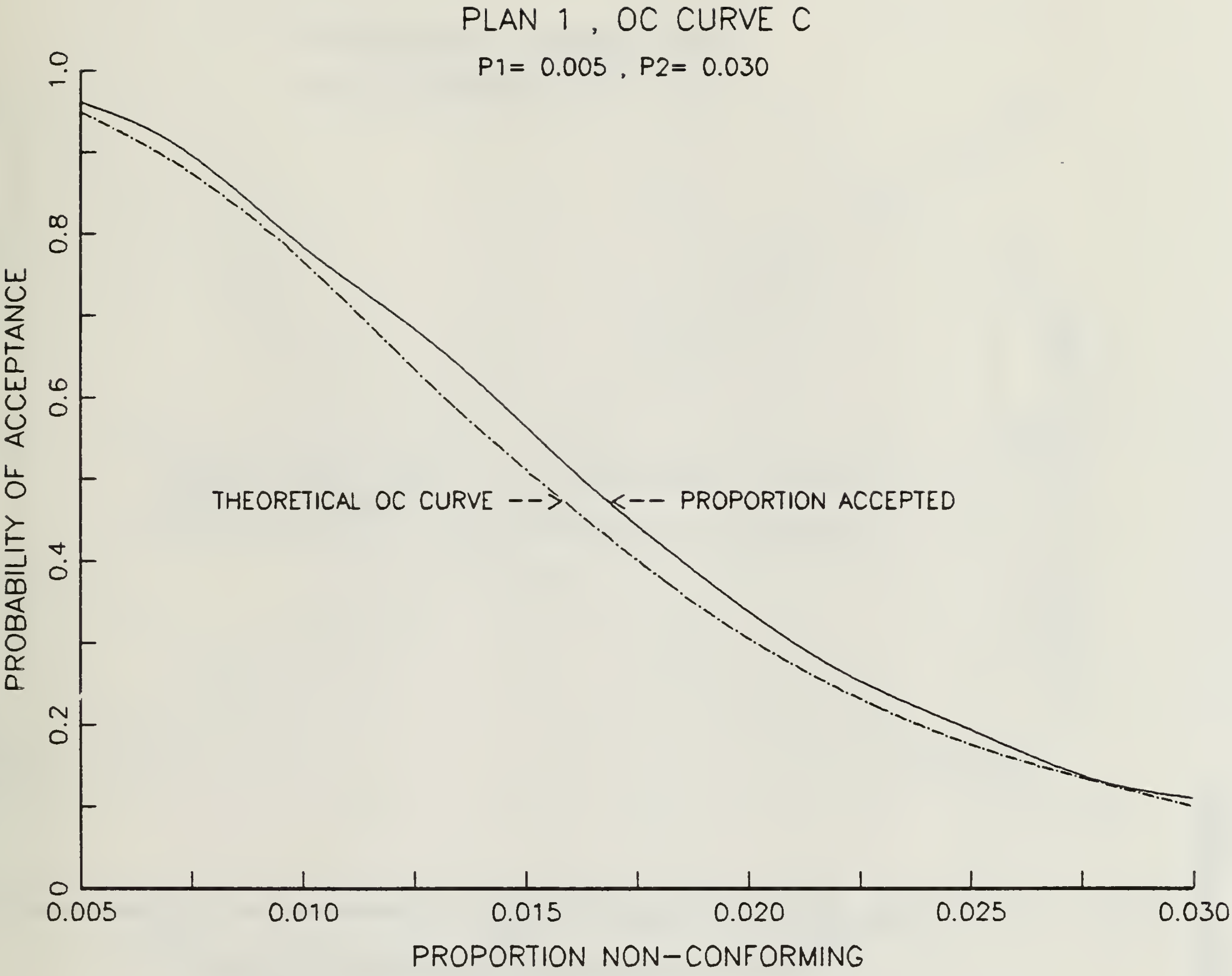
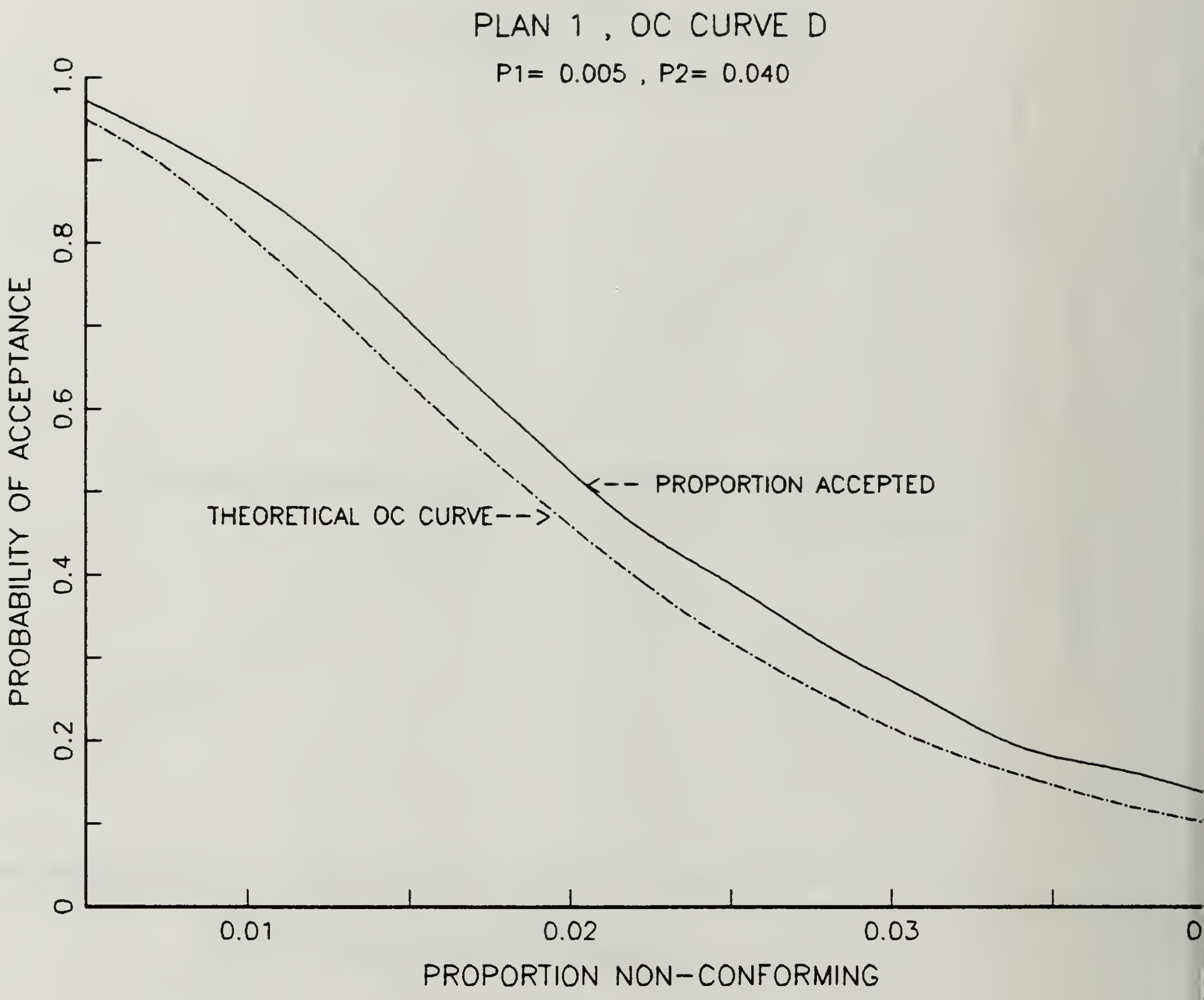


Figure10 - OC CURVE , PLAN SET I , CURVE C



REPRODUCED AT GOVERNMENT EXPENSE

Figure 11 - OC CURVE , PLAN SET I , CURVE D

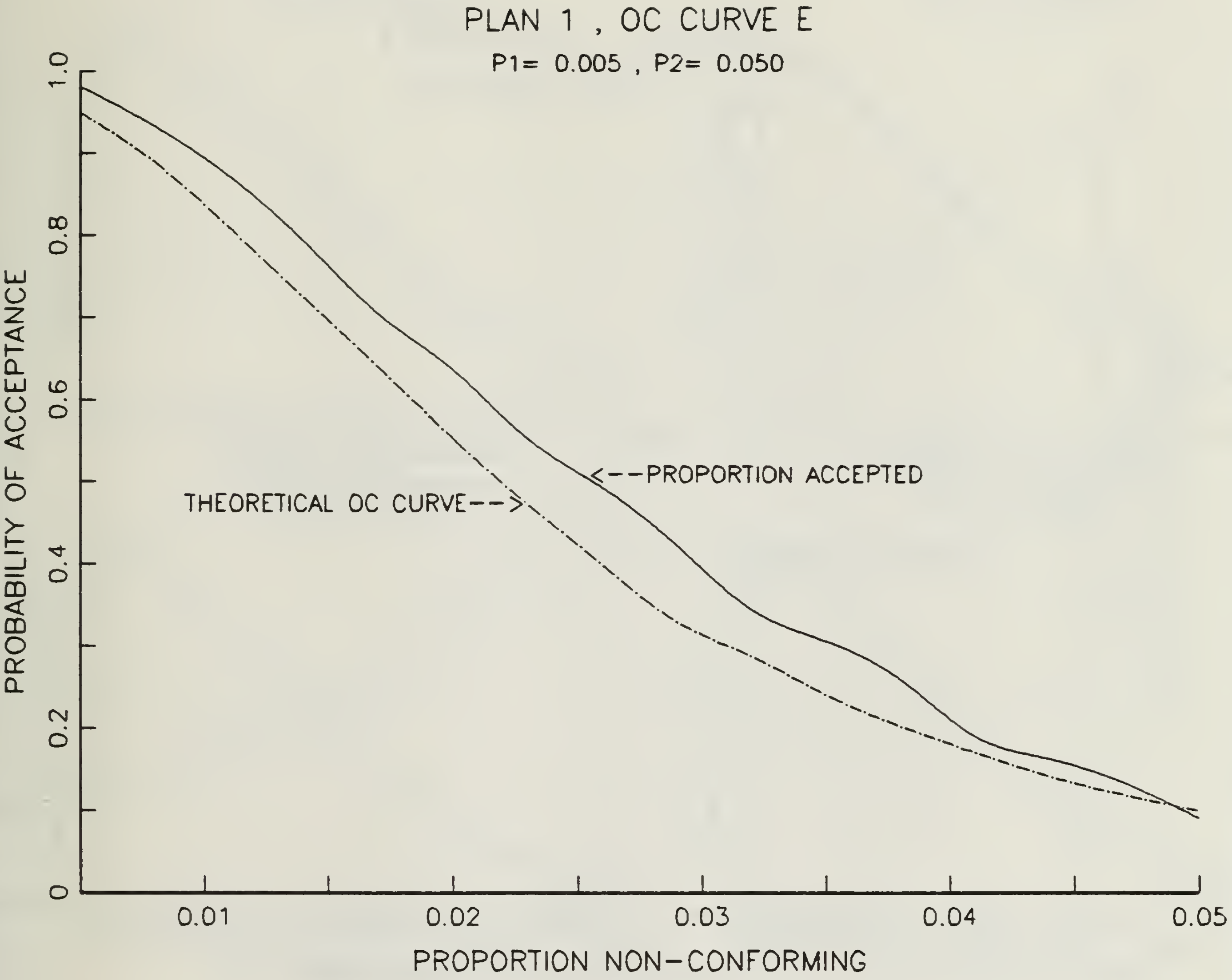


Figure 12 - OC CURVE , PLAN SET I , CURVE E

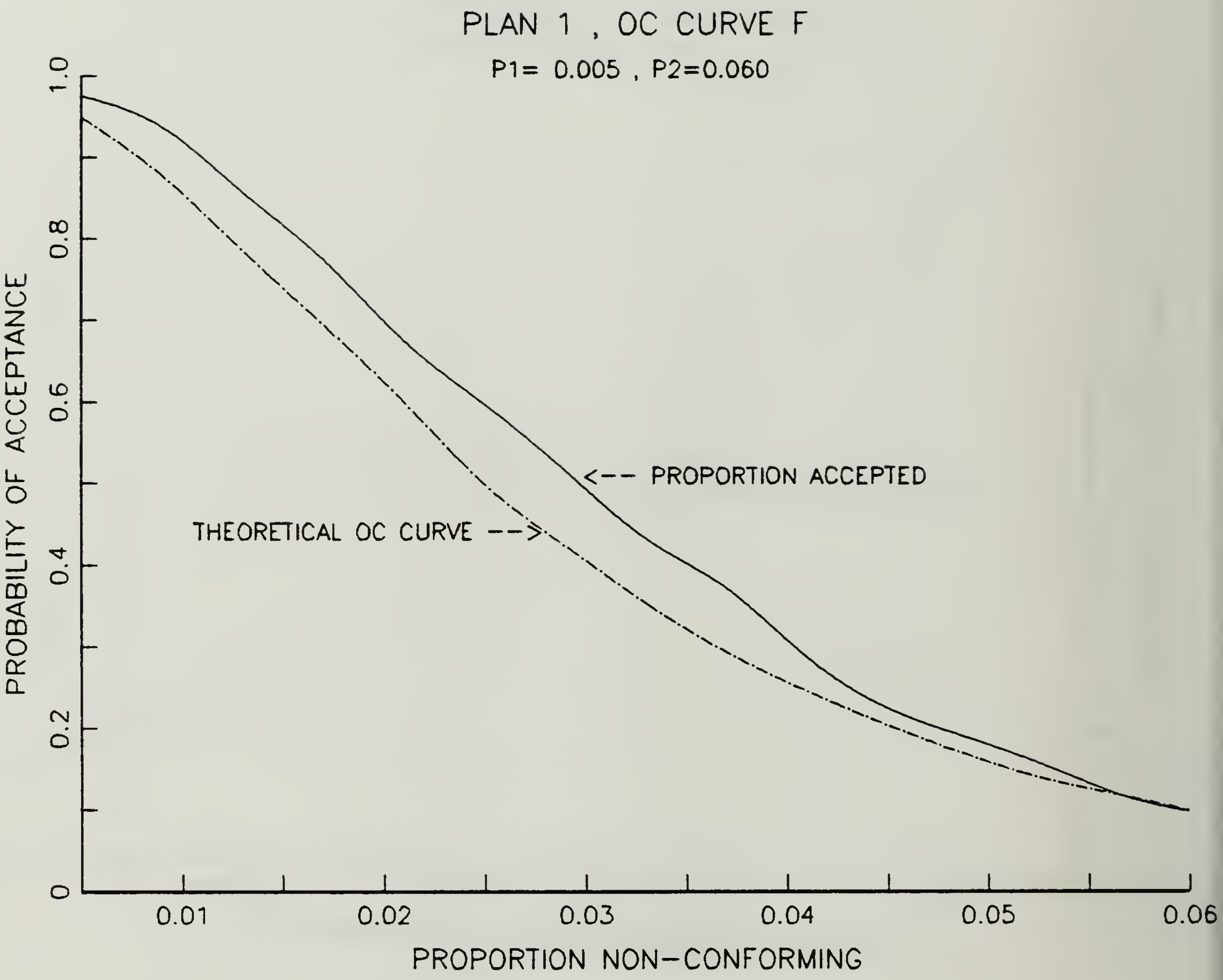


Figure 13 - OC CURVE , PLAN SET I , CURVE F

REPRODUCED AT GOVERNMENT EXPENSE

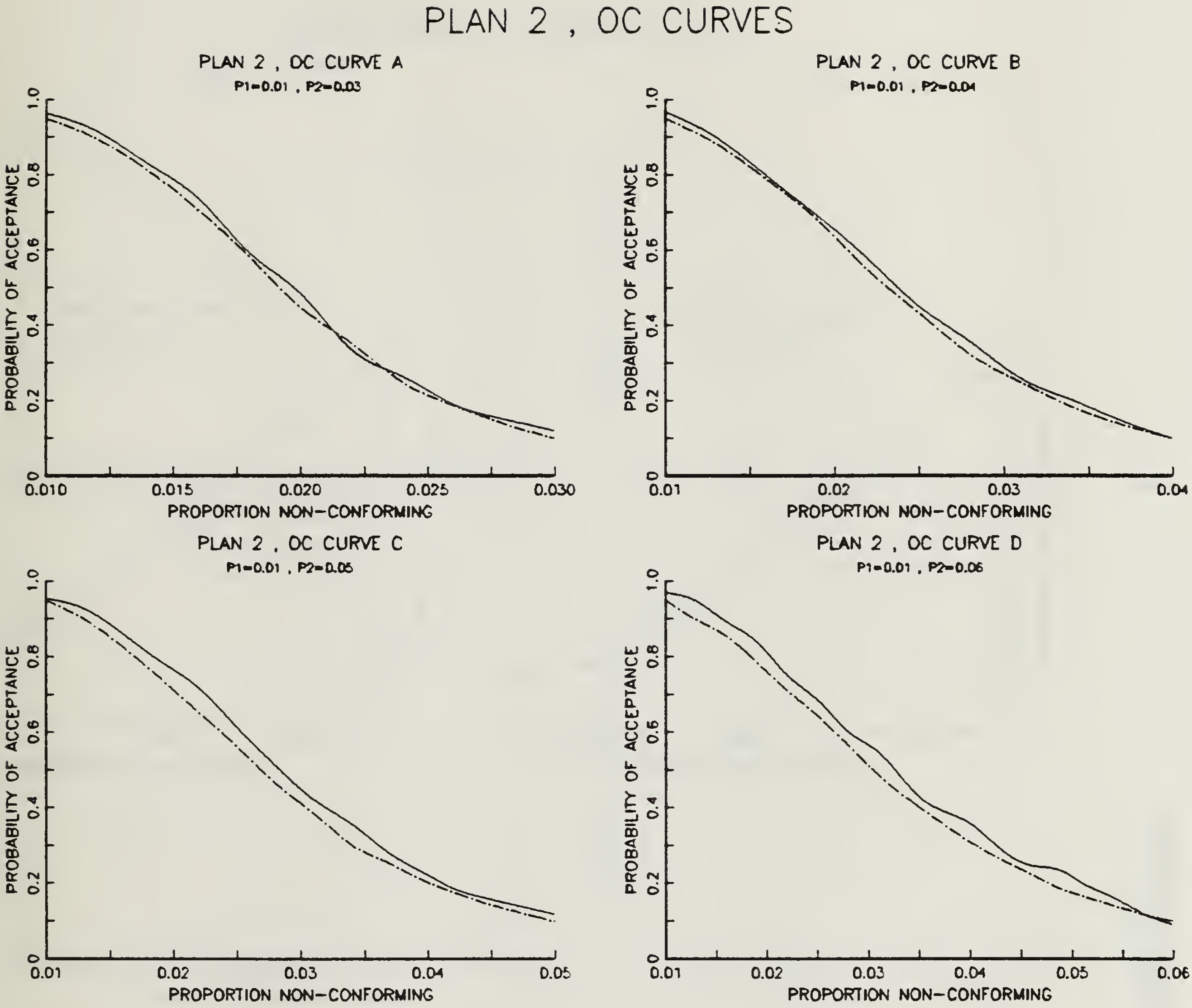


Figure 14 - OC CURVES , PLAN SET II , CURVES A THRU D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

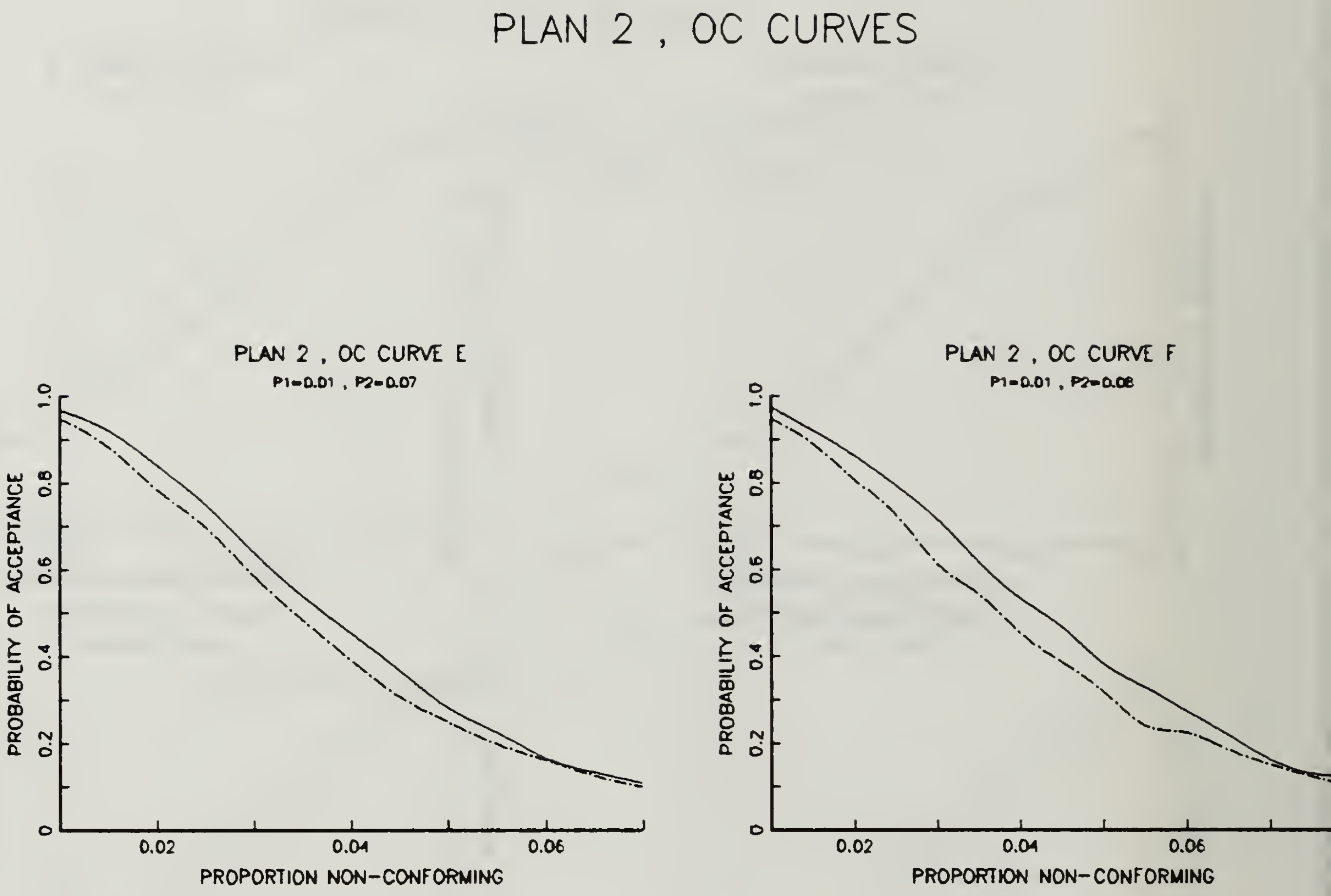


Figure 15 - OC CURVES , PLAN SET II , CURVES E AND D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

REPRODUCED AT GOVERNMENT EXPENSE

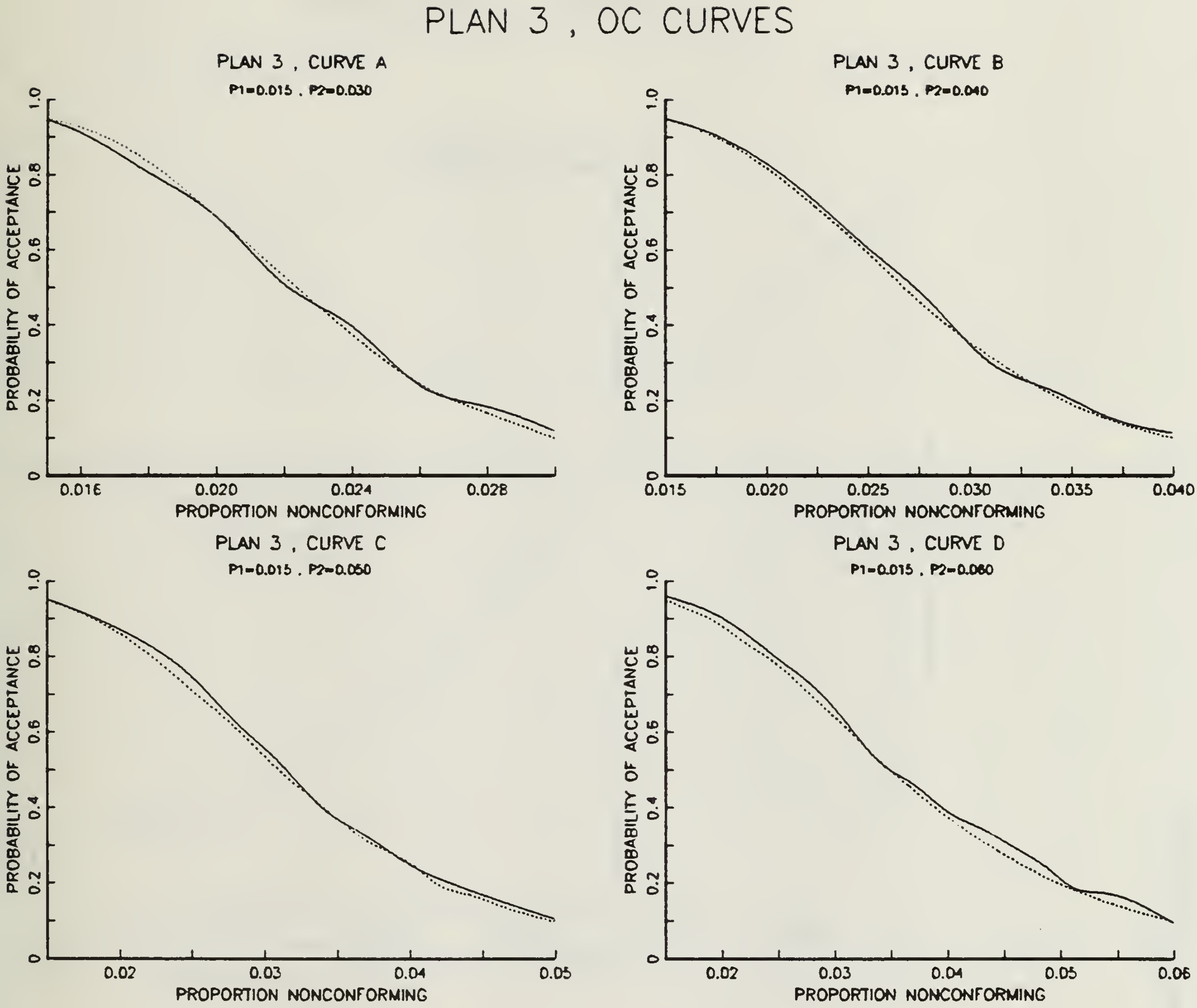


Figure 16 - OC CURVES , PLAN SET III , CURVES A THRU D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

PLAN 3 , OC CURVES

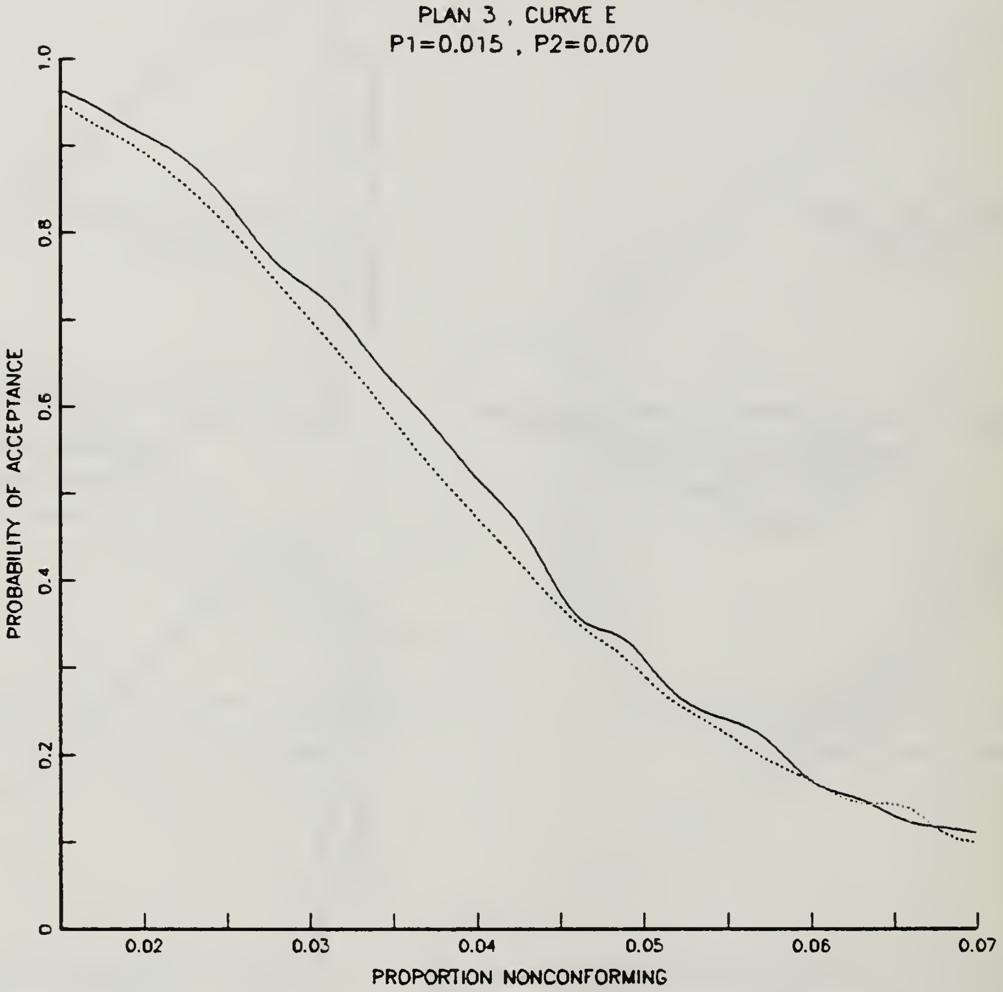


Figure 17 - OC CURVE , PLAN SET III , CURVES E
(SOLID LINE - TRUE , DASHED - THEORETICAL)

REPRODUCED AT GOVERNMENT EXPENSE

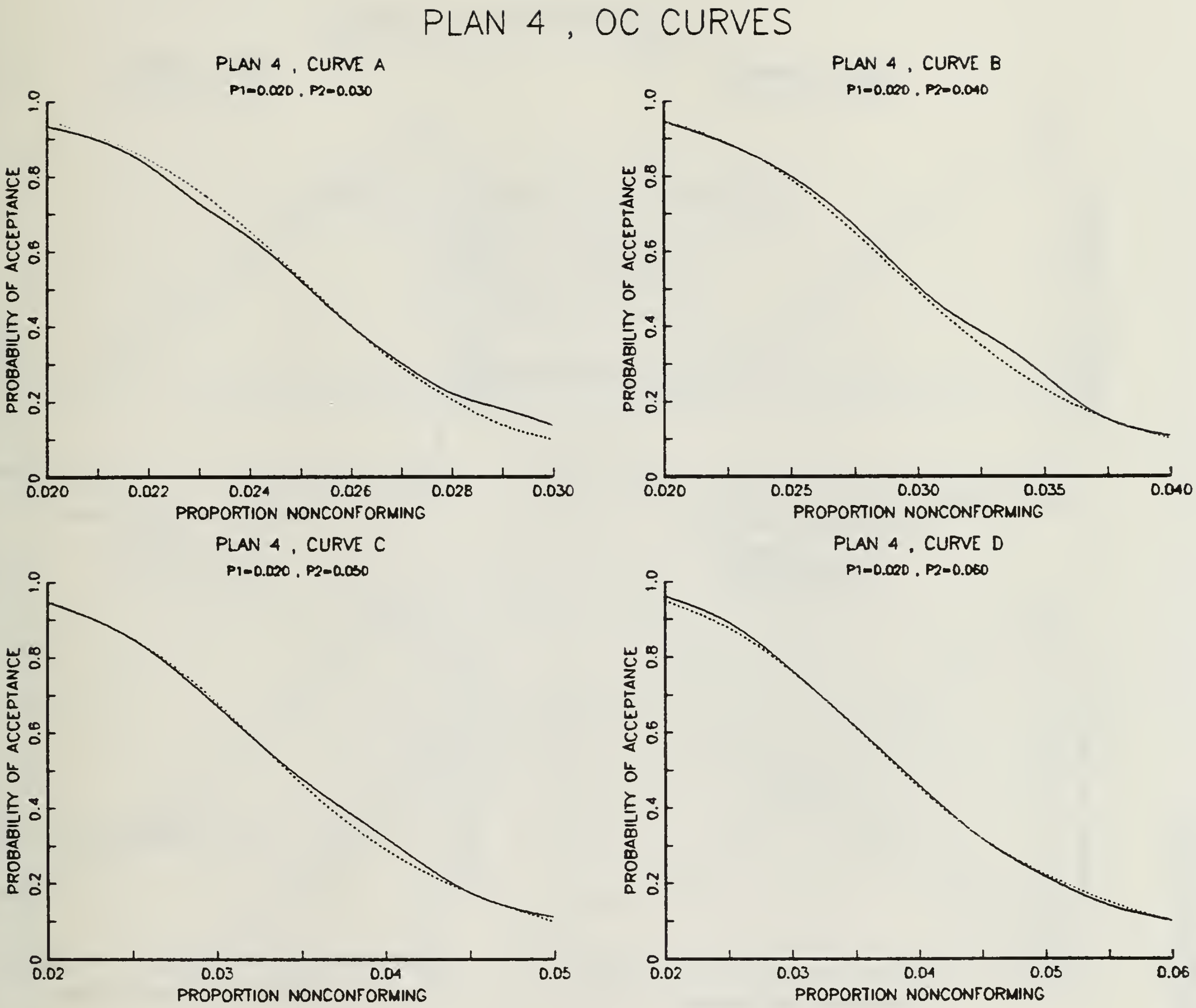


Figure 18 - OC CURVES , PLAN SET IV , CURVES A THRU D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

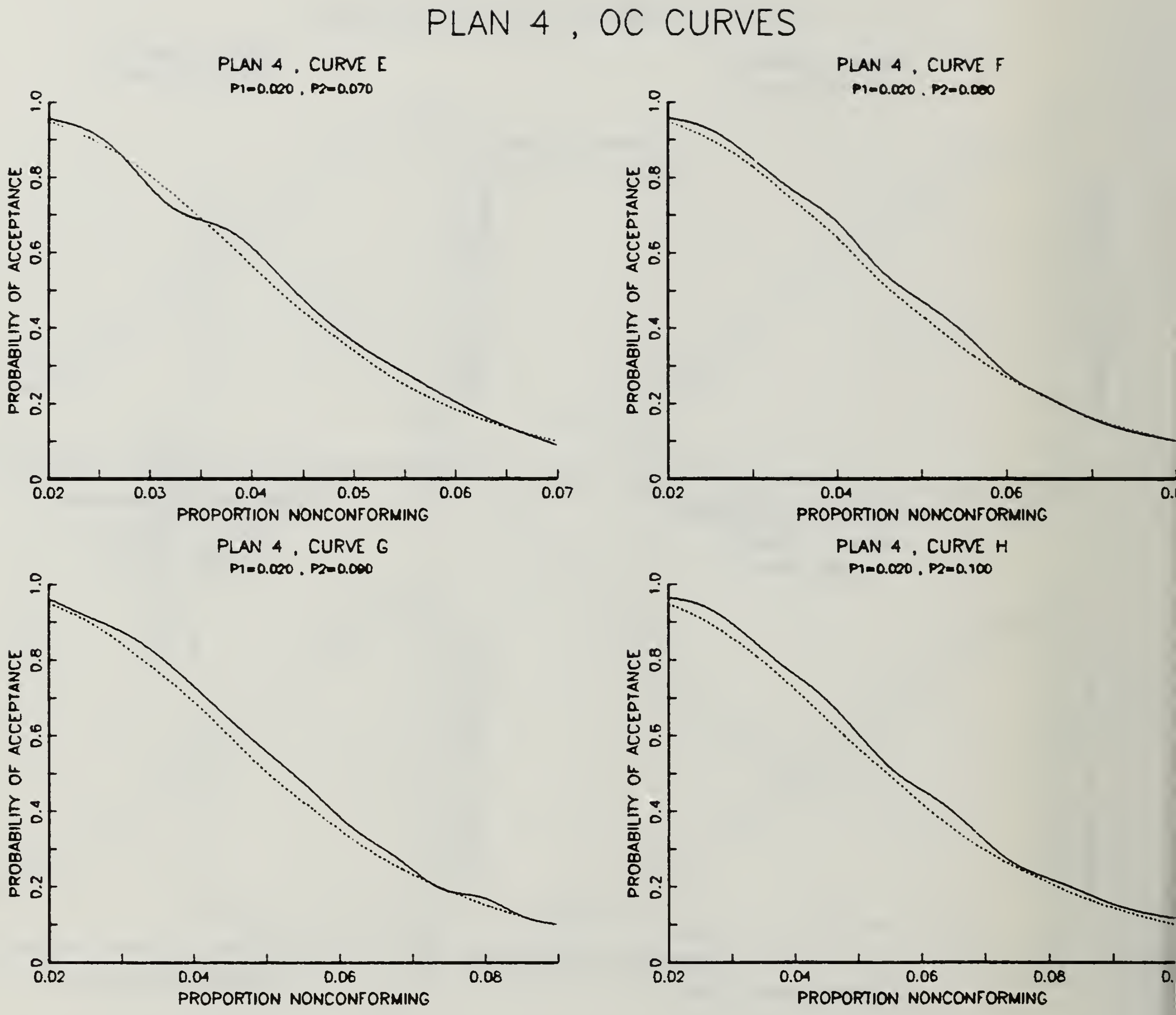


Figure 19 - OC CURVES , PLAN SET IV , CURVES E THRU H
(SOLID LINE - TRUE , DASHED - THEORETICAL)

REPRODUCED AT GOVERNMENT EXPENSE

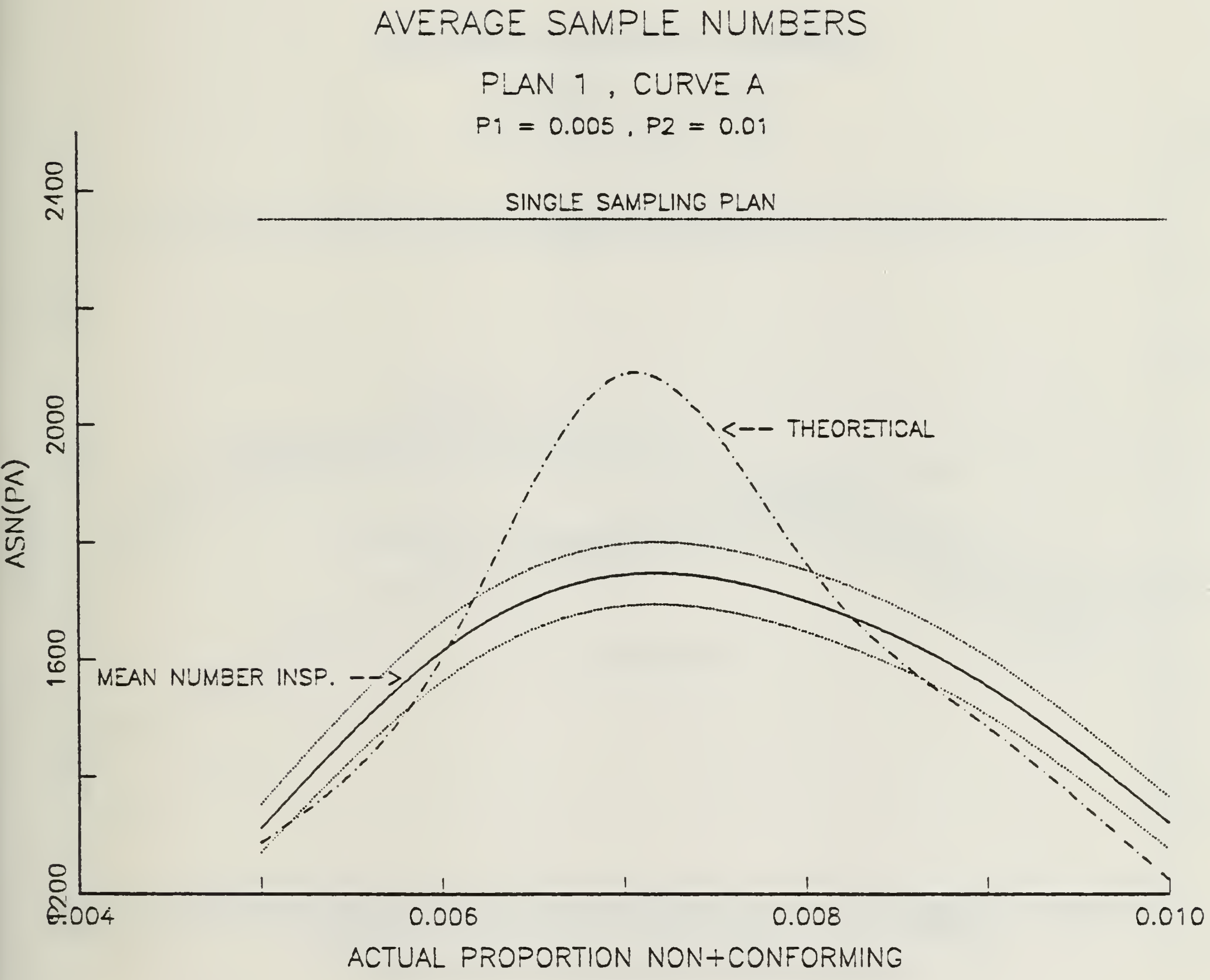


Figure 20 - ASN CURVE , PLAN SET I , CURVE A

REPRODUCED AT GOVERNMENT EXPENSE

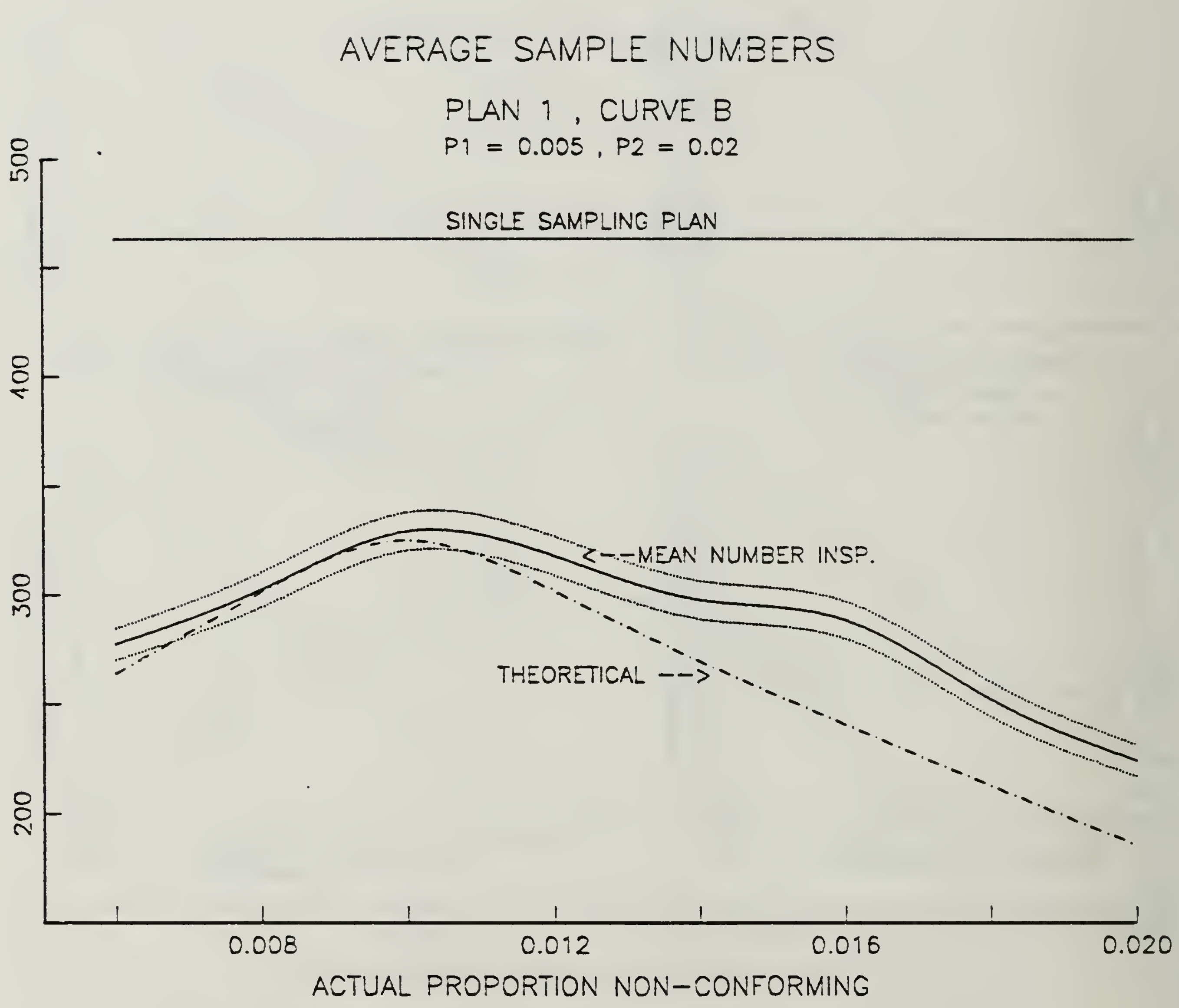


Figure 21 - ASN CURVE , PLAN SET I , CURVE B

REPRODUCED AT GOVERNMENT EXPENSE

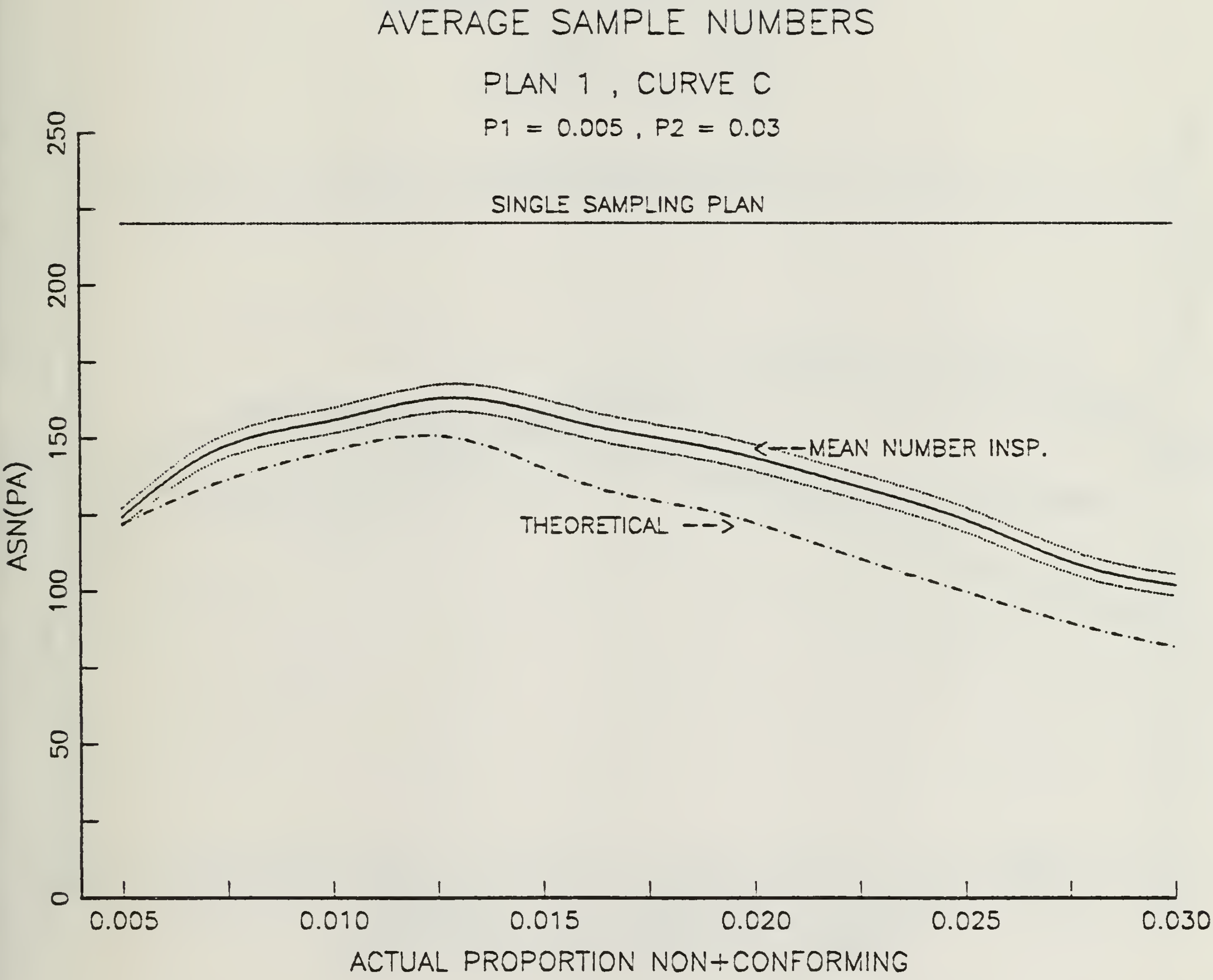


Figure 22 - ASN CURVE , PLAN SET I , CURVE C

REPRODUCED AT GOVERNMENT EXPENSE

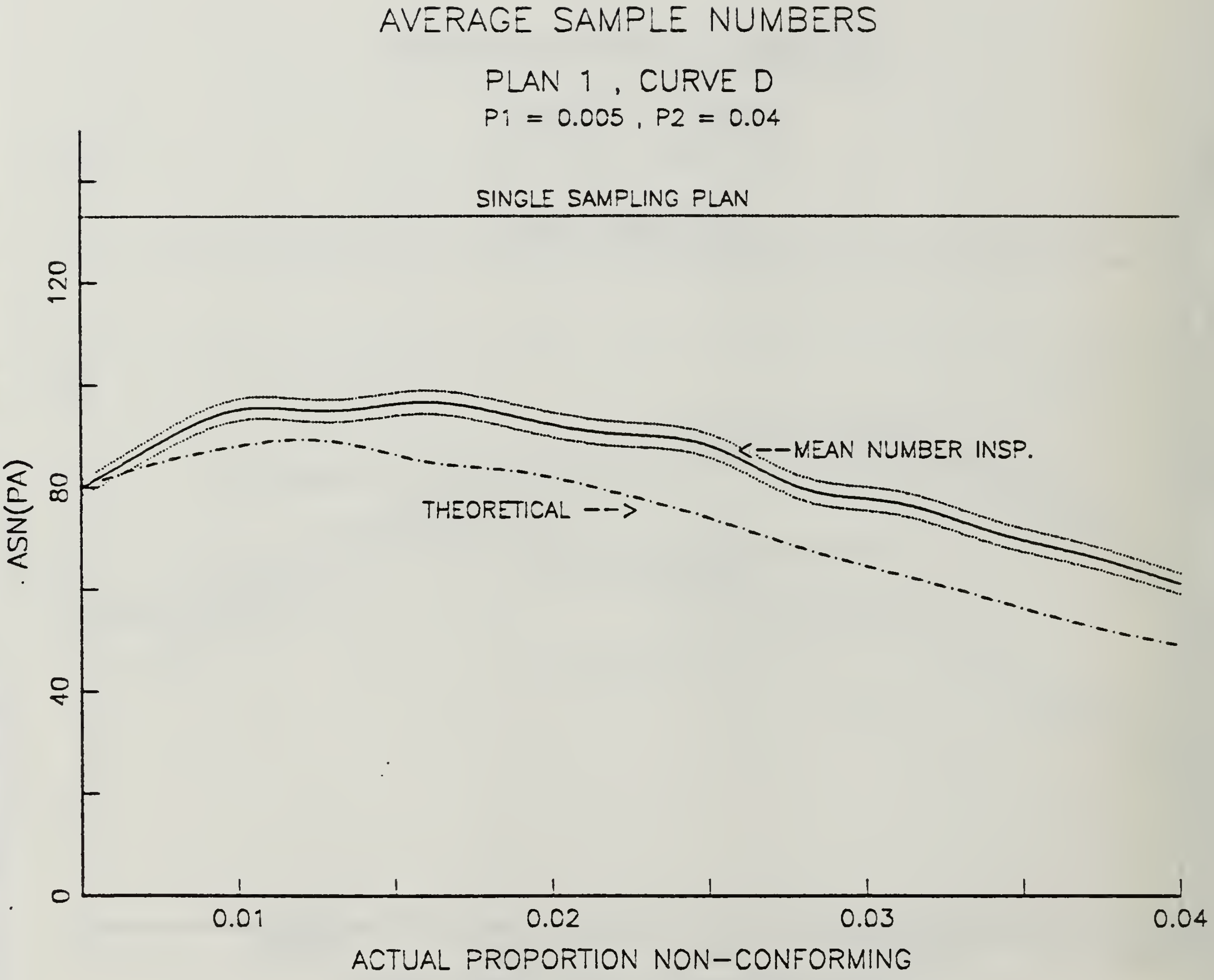


Figure 23 - ASN CURVE , PLAN SET I , CURVE D

REPRODUCED AT GOVERNMENT EXPENSE

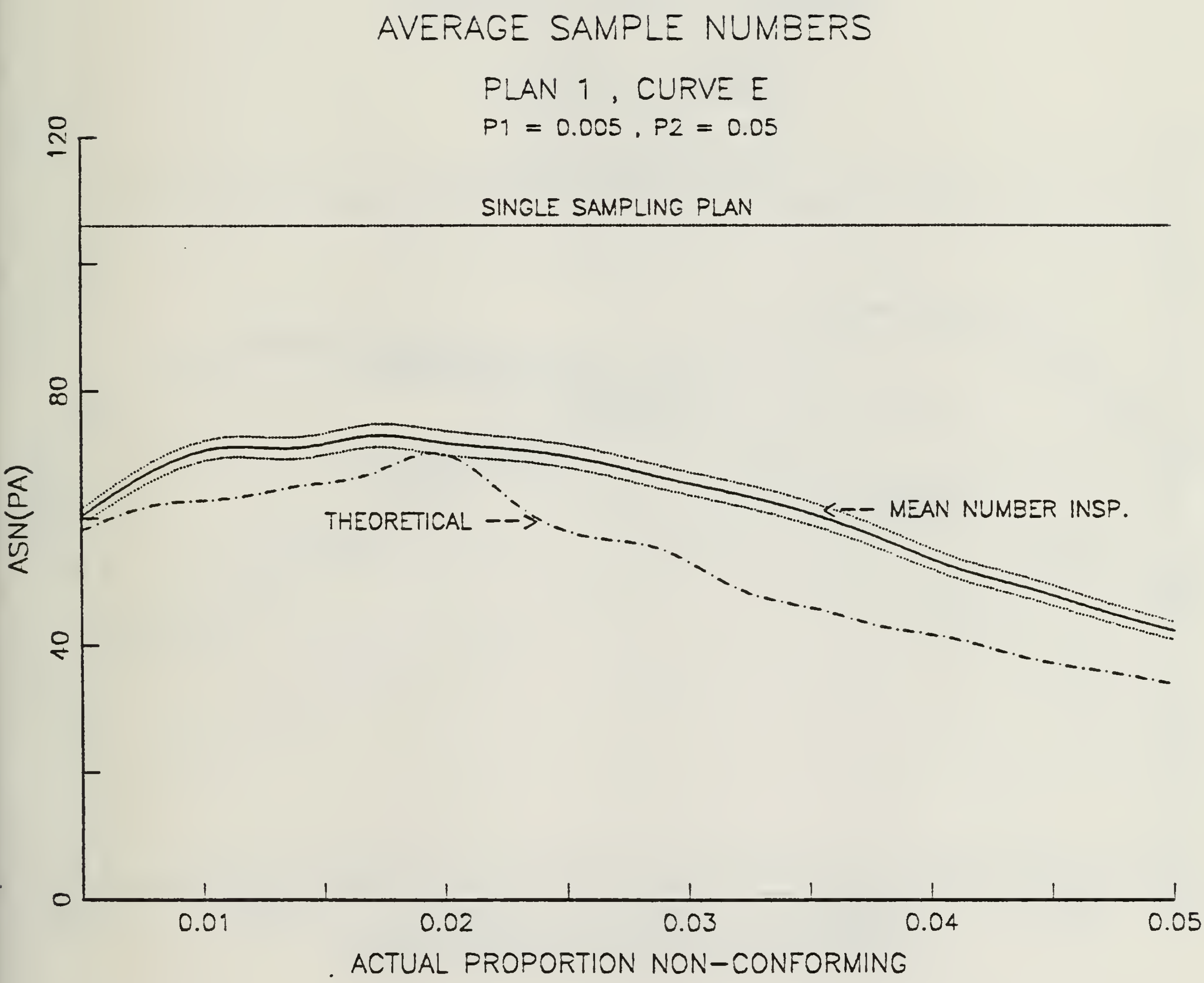


Figure 24 - ASN CURVE , PLAN SET I , CURVE E

REPRODUCED AT GOVERNMENT EXPENSE

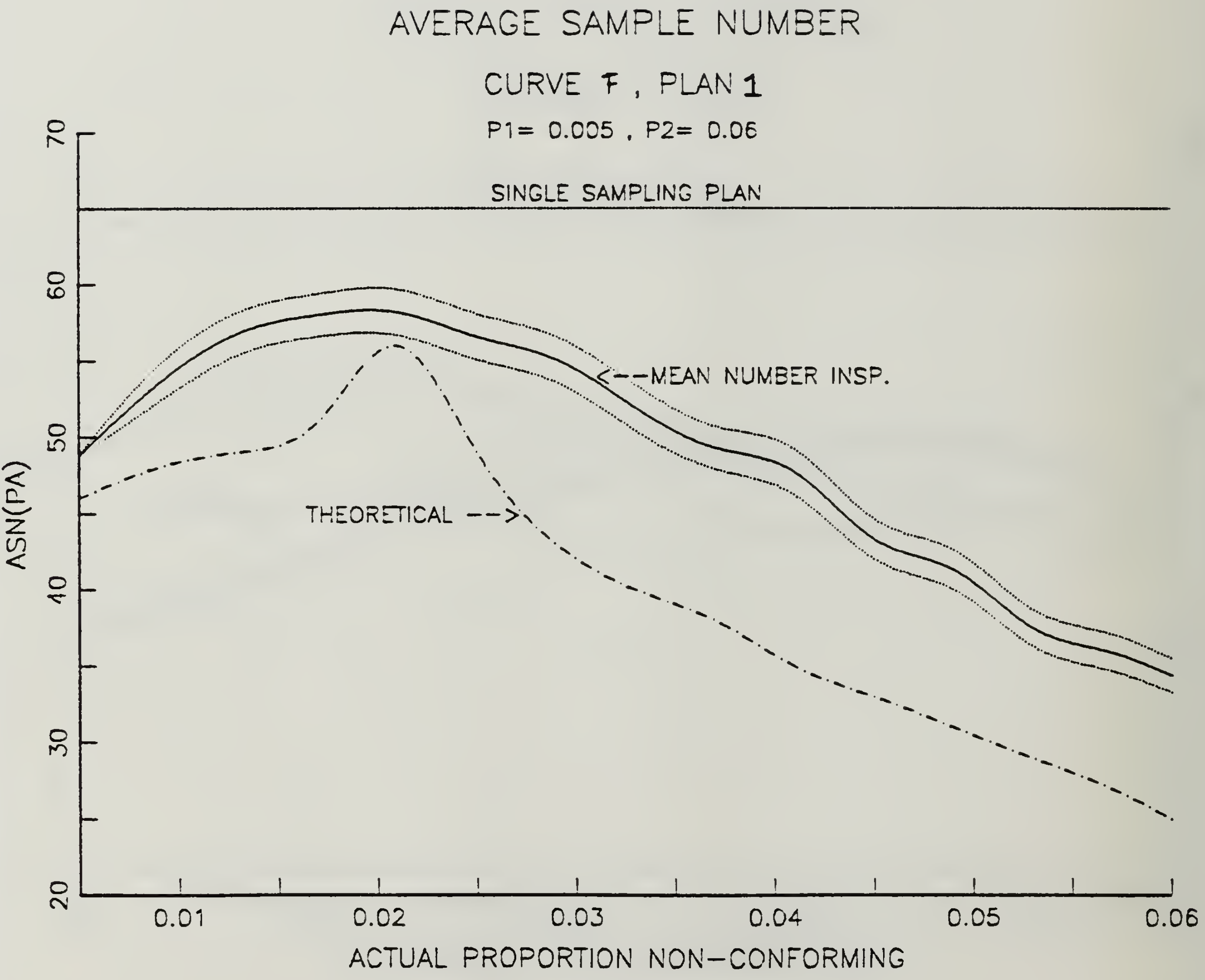


Figure 25 - ASN CURVE , PLAN SET I , CURVE F

REPRODUCED AT GOVERNMENT EXPENSE

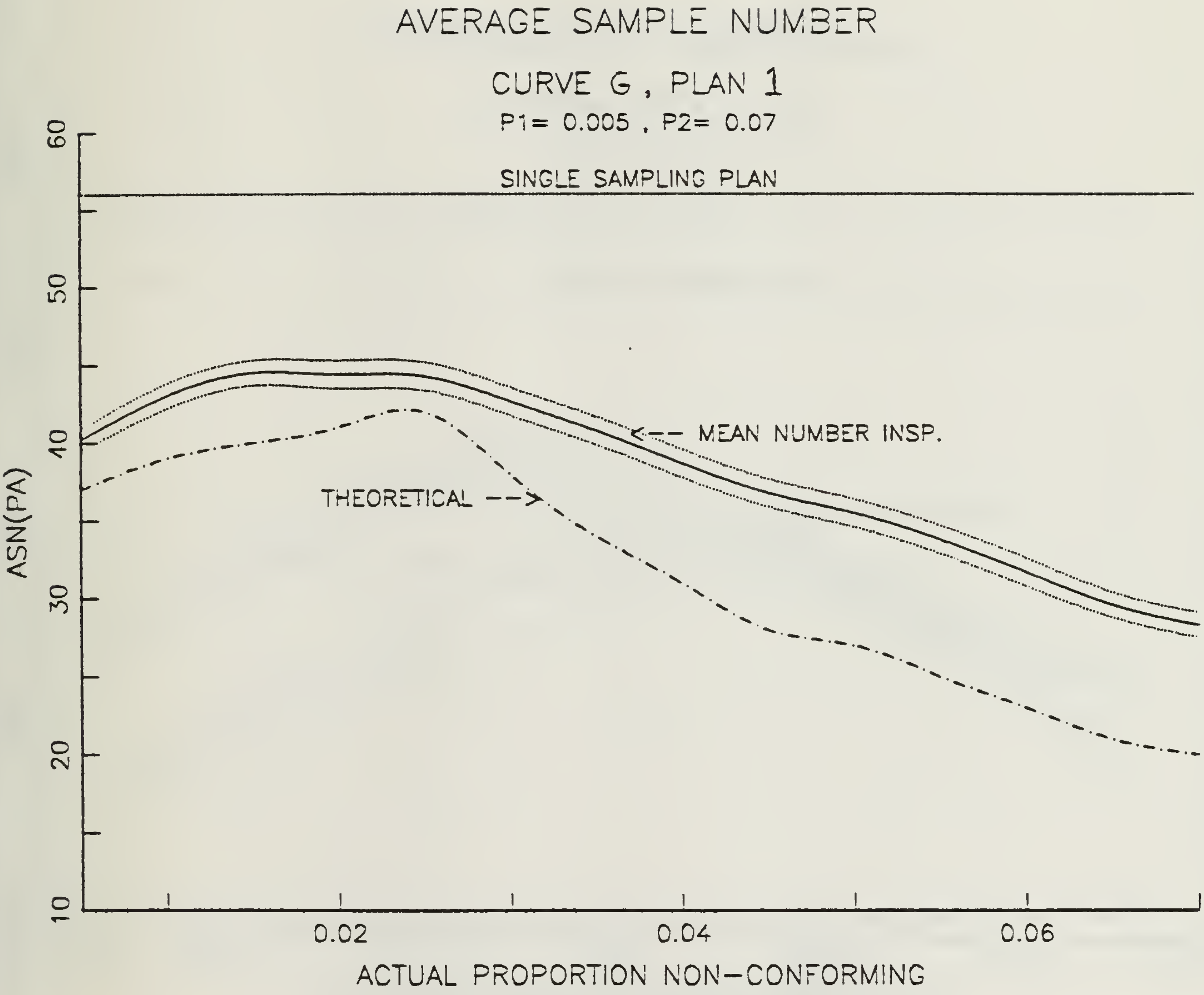


Figure 26 - ASN CURVE , PLAN SET I , CURVE G

REPRODUCED AT GOVERNMENT EXPENSE

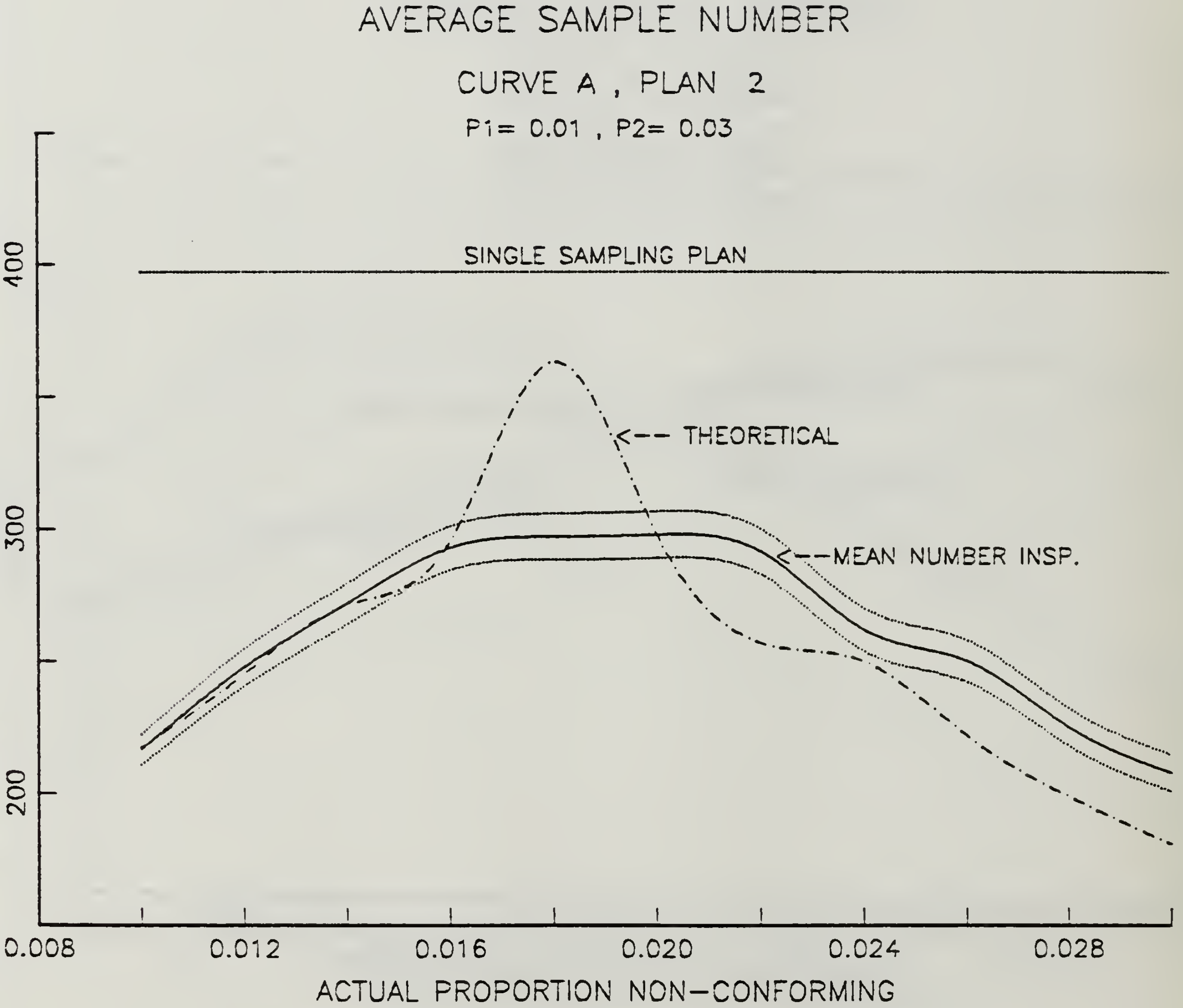


Figure 27 - ASN CURVE , PLAN SET II , CURVE A

REPRODUCED AT GOVERNMENT EXPENSE

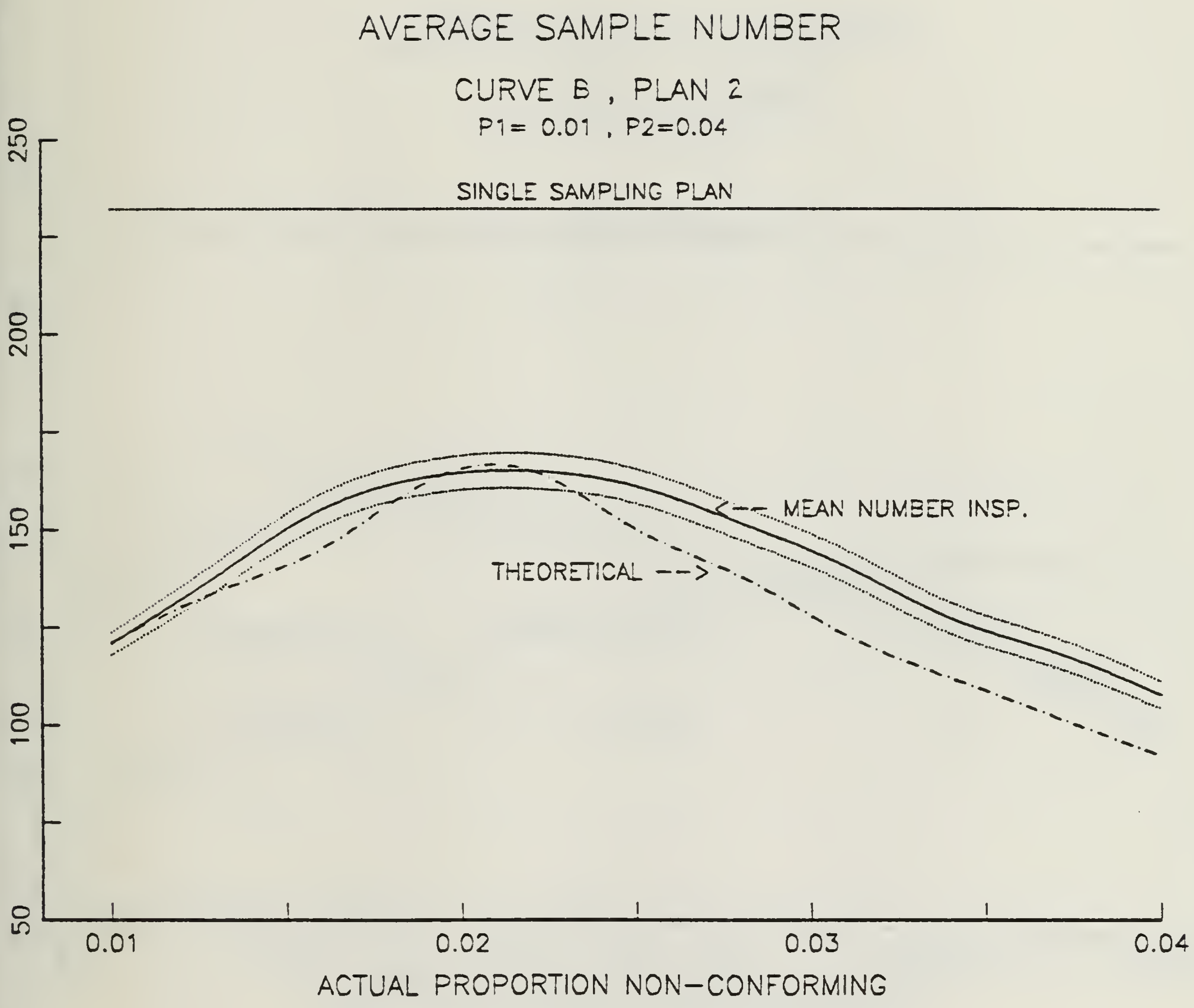


Figure 28 - ASN CURVE , PLAN SET II , CURVE B

REPRODUCED AT GOVERNMENT EXPENSE

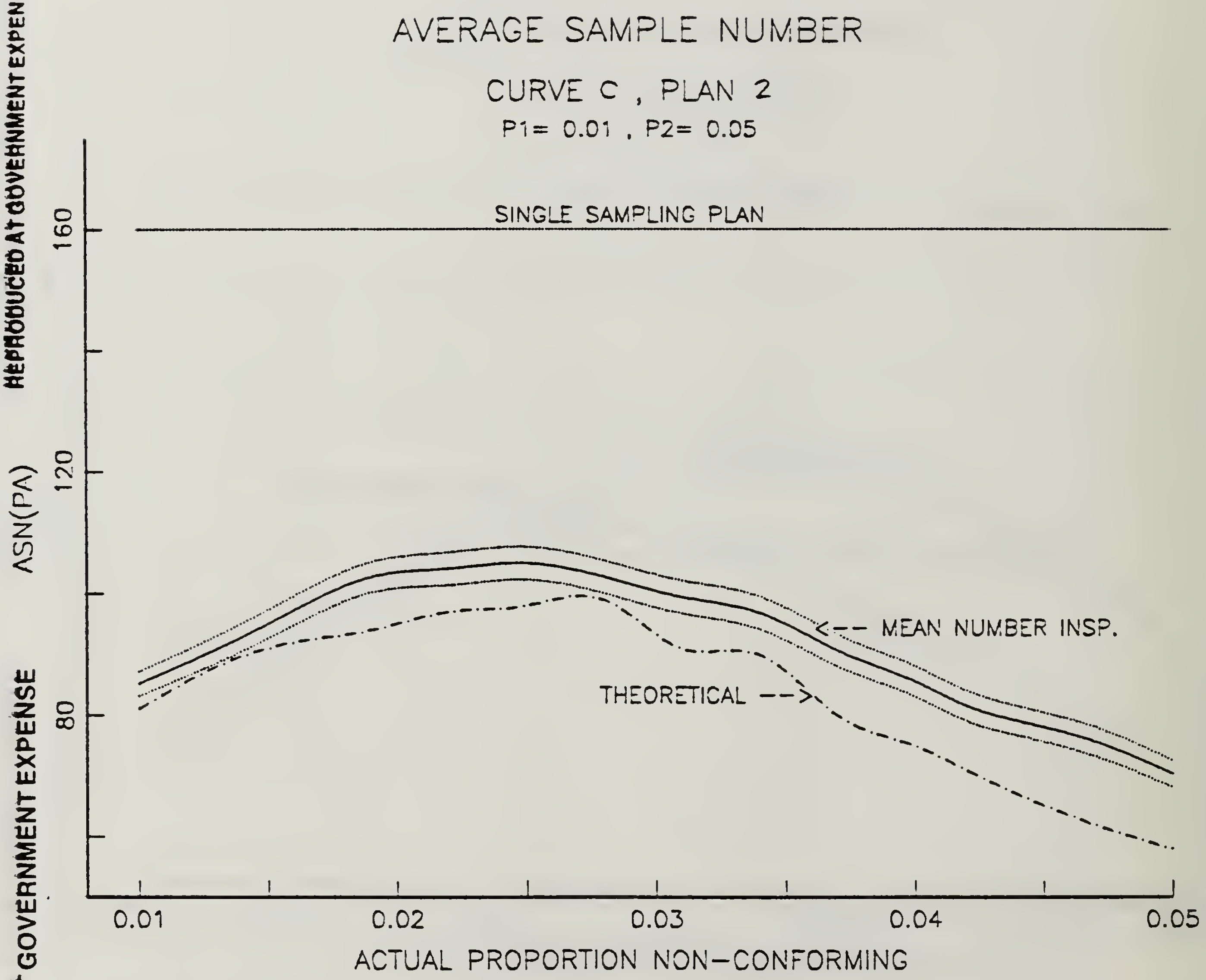


Figure 29 - ASN CURVE , PLAN SET II , CURVE C

REPRODUCED AT GOVERNMENT EXPENSE

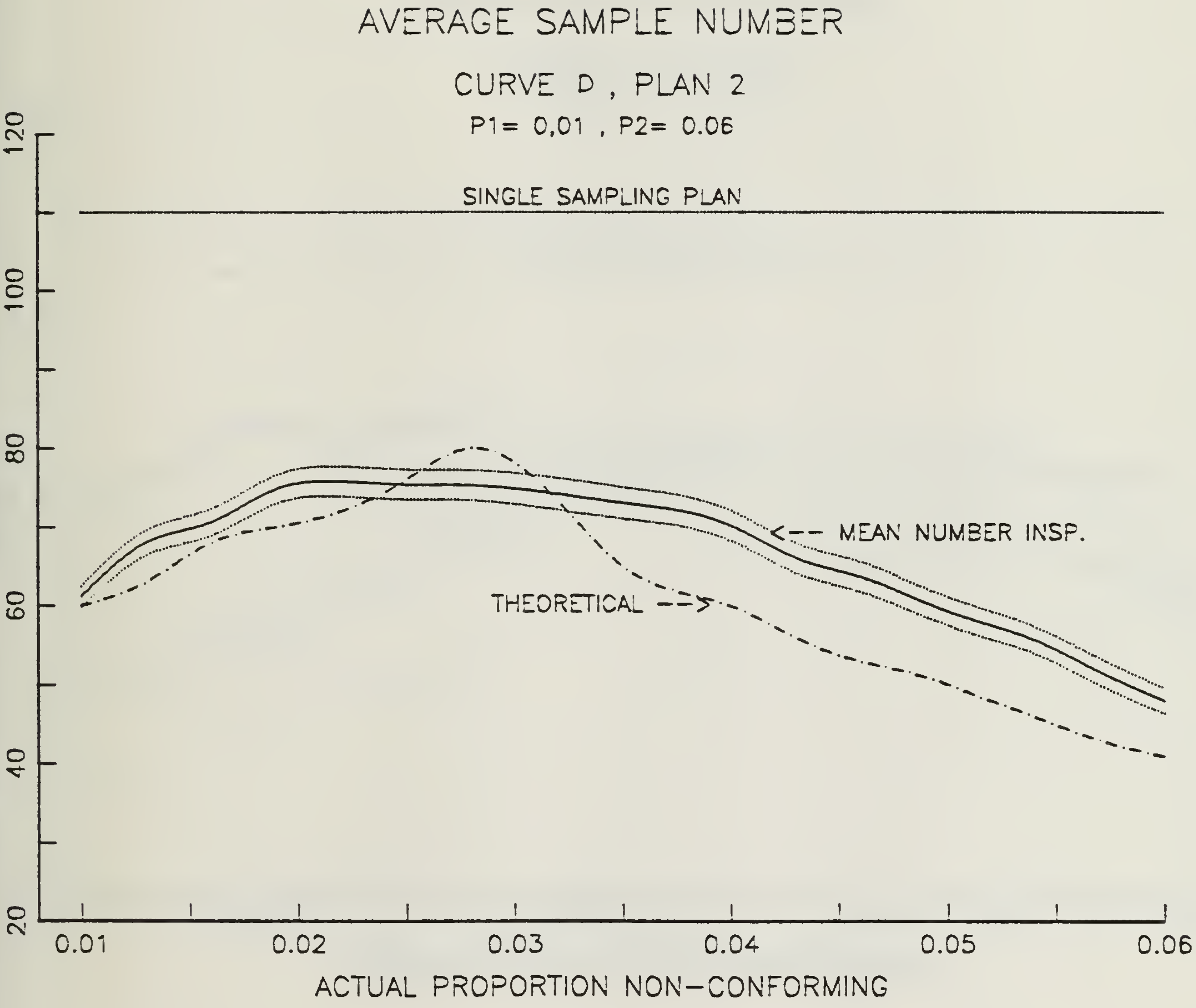


Figure 30 - ASN CURVE , PLAN SET II , CURVE D

REPRODUCED AT GOVERNMENT EXPENSE

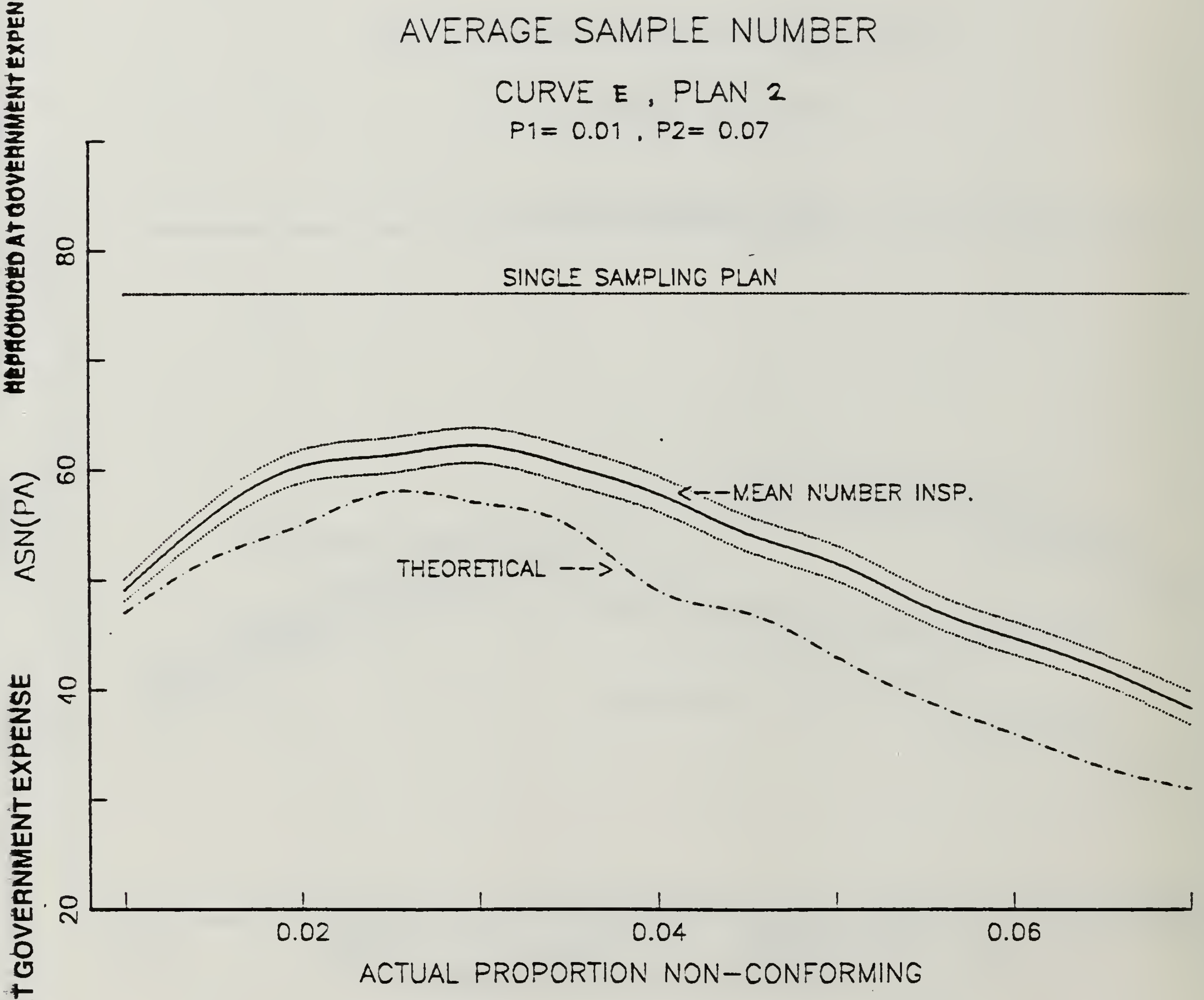


Figure 31 - ASN CURVE , PLAN SET II , CURVE E

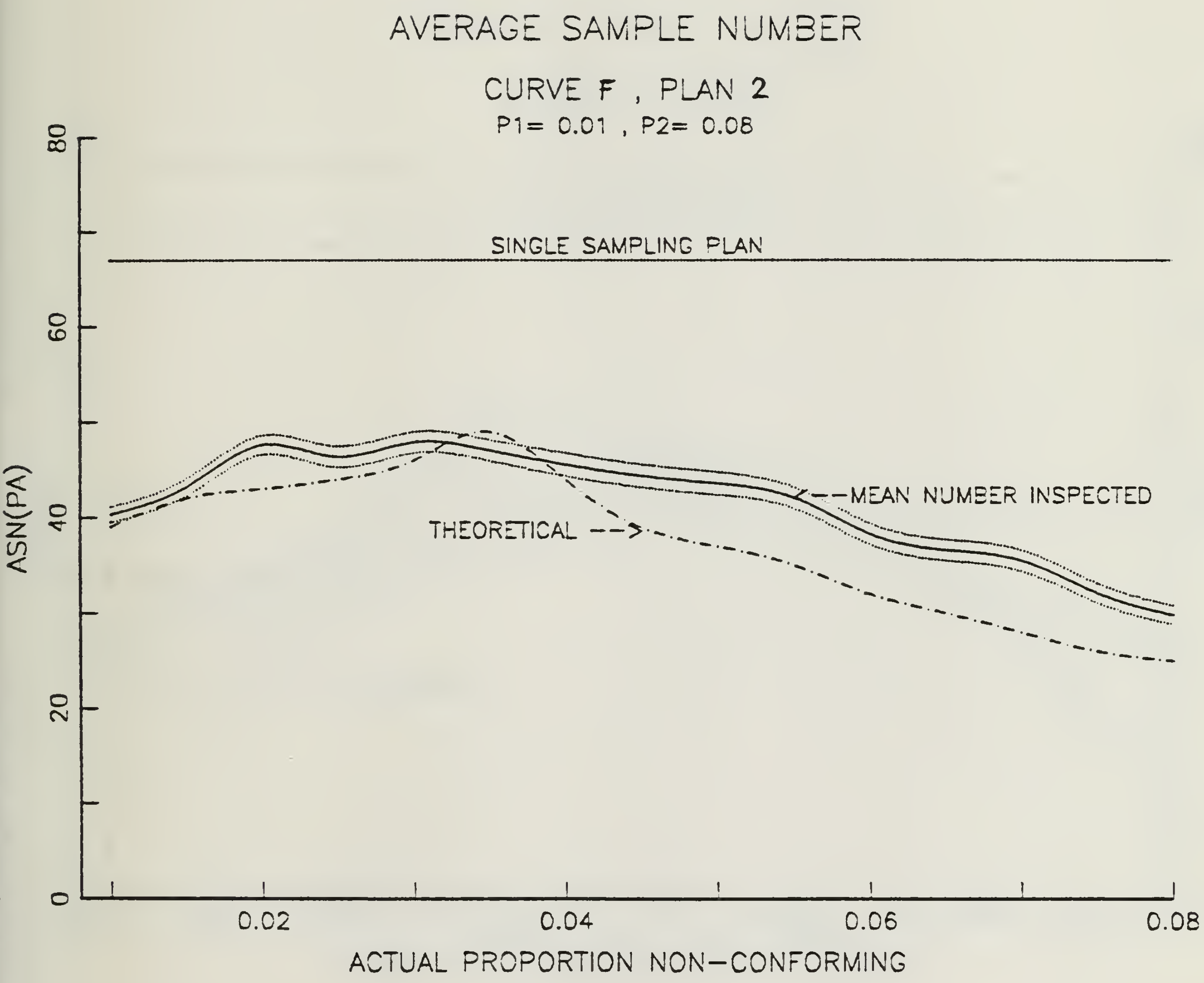
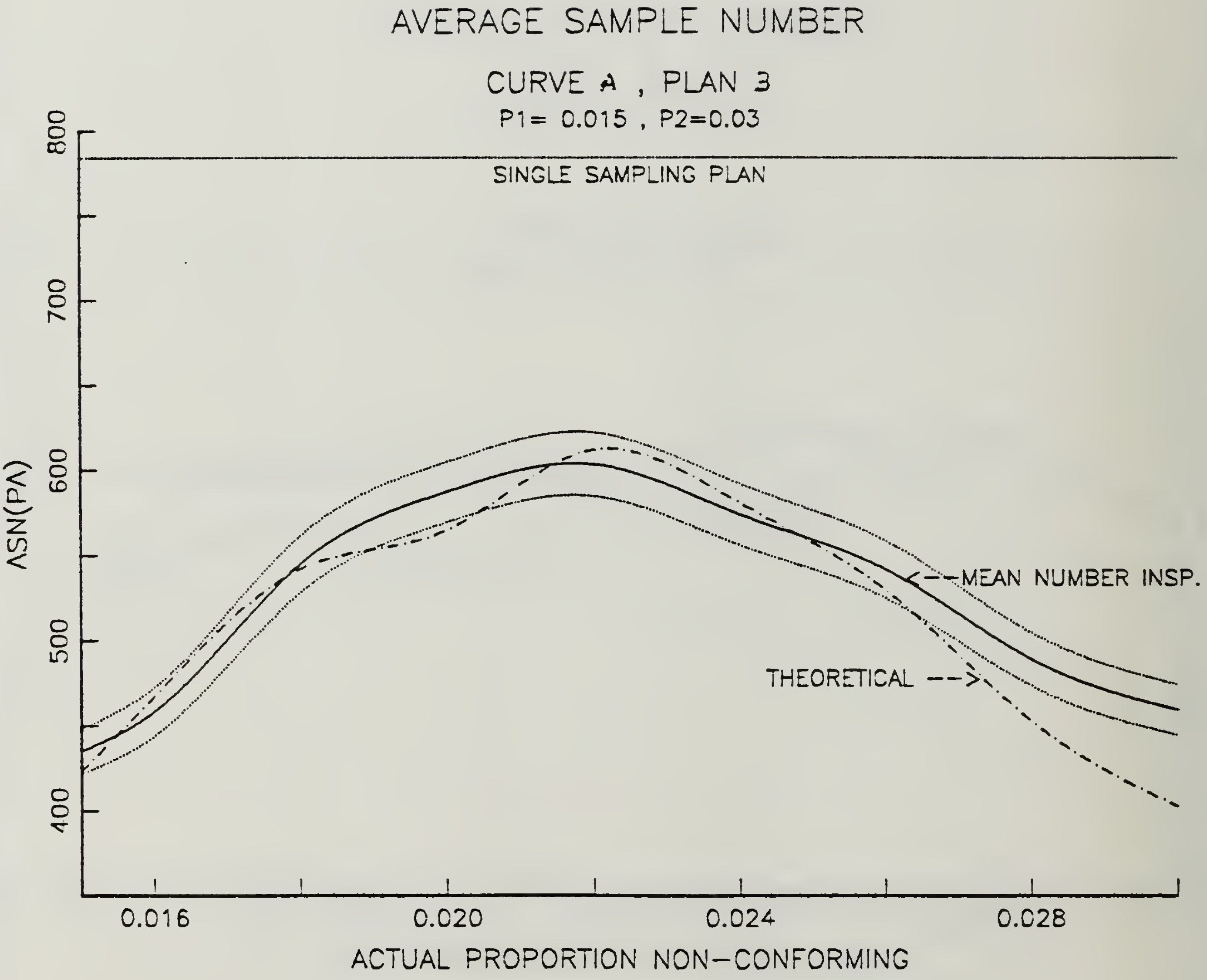


Figure 32 - ASN CURVE , PLAN SET II , CURVE F

REPRODUCED AT GOVERNMENT EXPENSE



REPRODUCED AT GOVERNMENT EXPENSE

Figure 33 - ASN CURVE , PLAN SET III , CURVE A

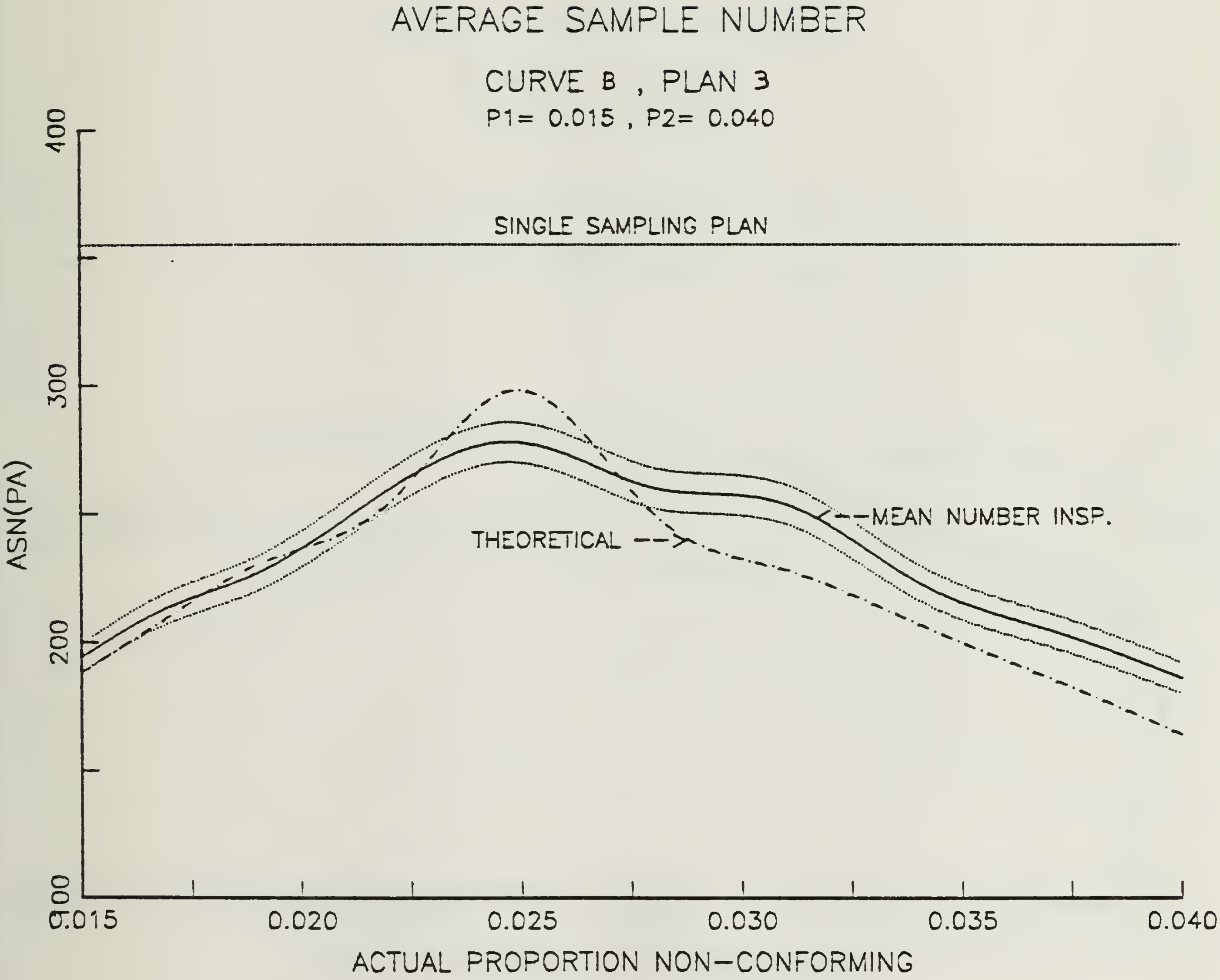


Figure 34 - ASN CURVE , PLAN SET III , CURVE B

REPRODUCED AT GOVERNMENT EXPENSE

REPRODUCED AT GOVERNMENT EXPENSE

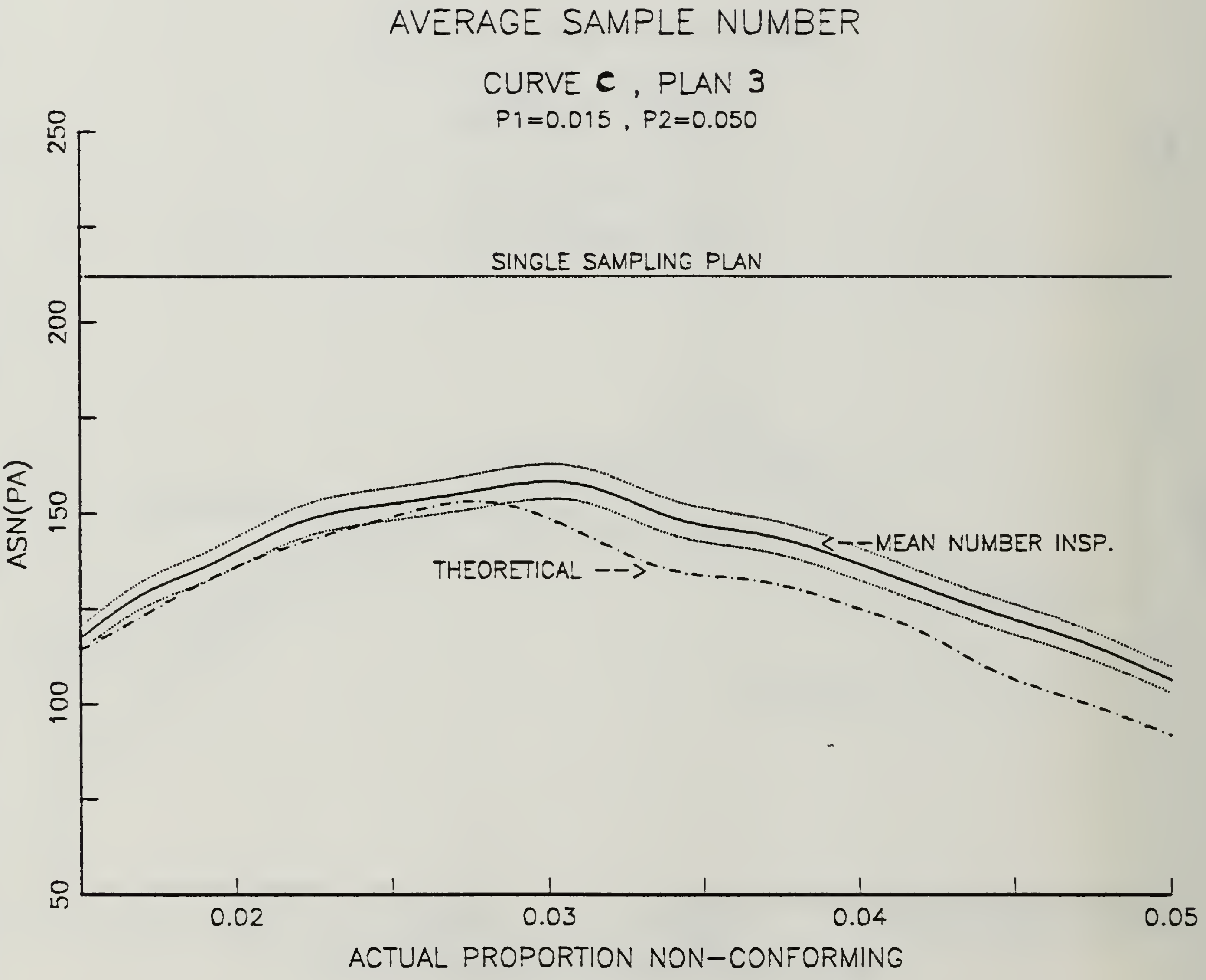


Figure 35 - ASN CURVE , PLAN SET III , CURVE C

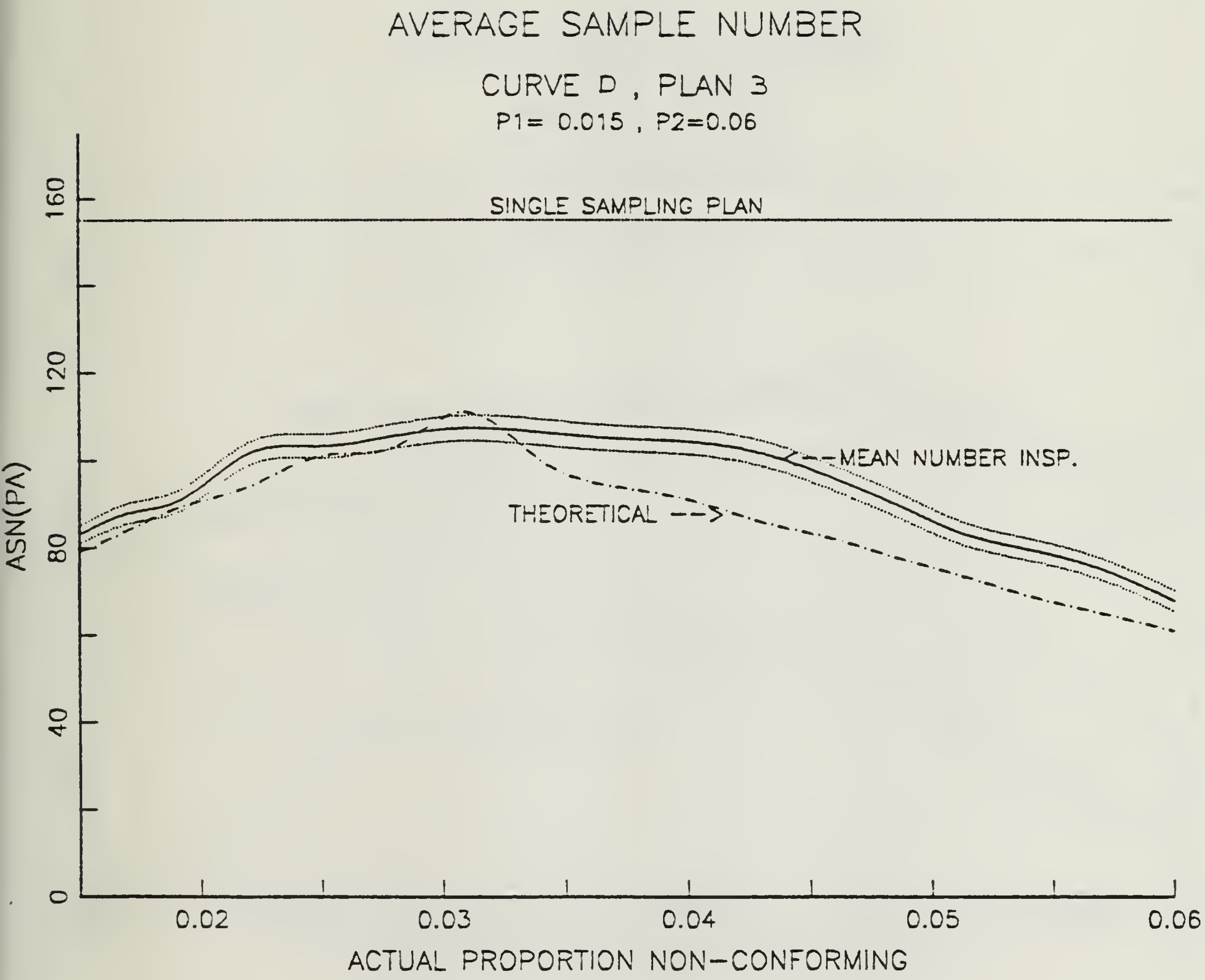


Figure 36 - ASN CURVE , PLAN SET III , CURVE D

REPRODUCED AT GOVERNMENT EXPENSE

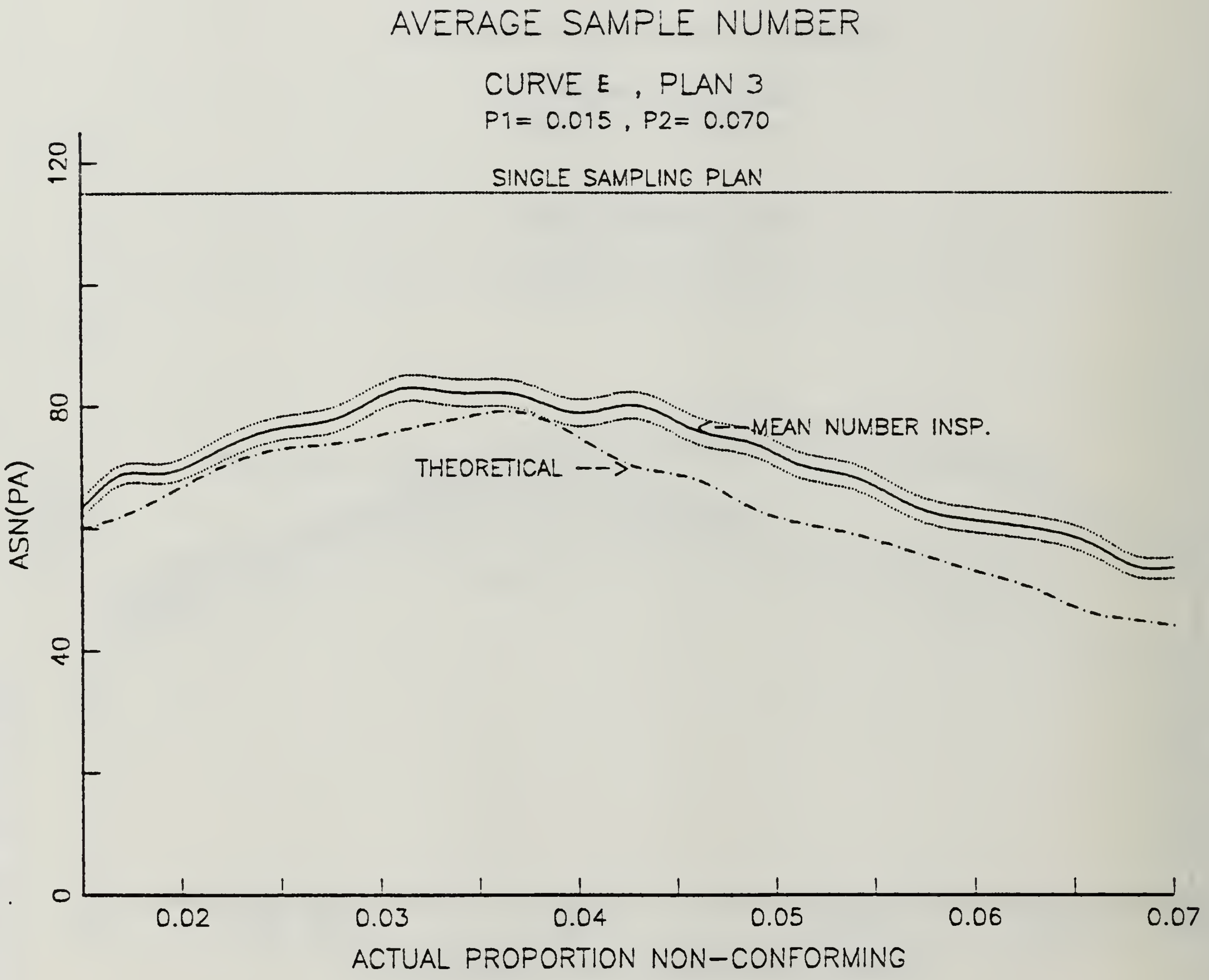


Figure 37 - ASN CURVE , PLAN SET III , CURVE E

REPRODUCED AT GOVERNMENT EXPENSE

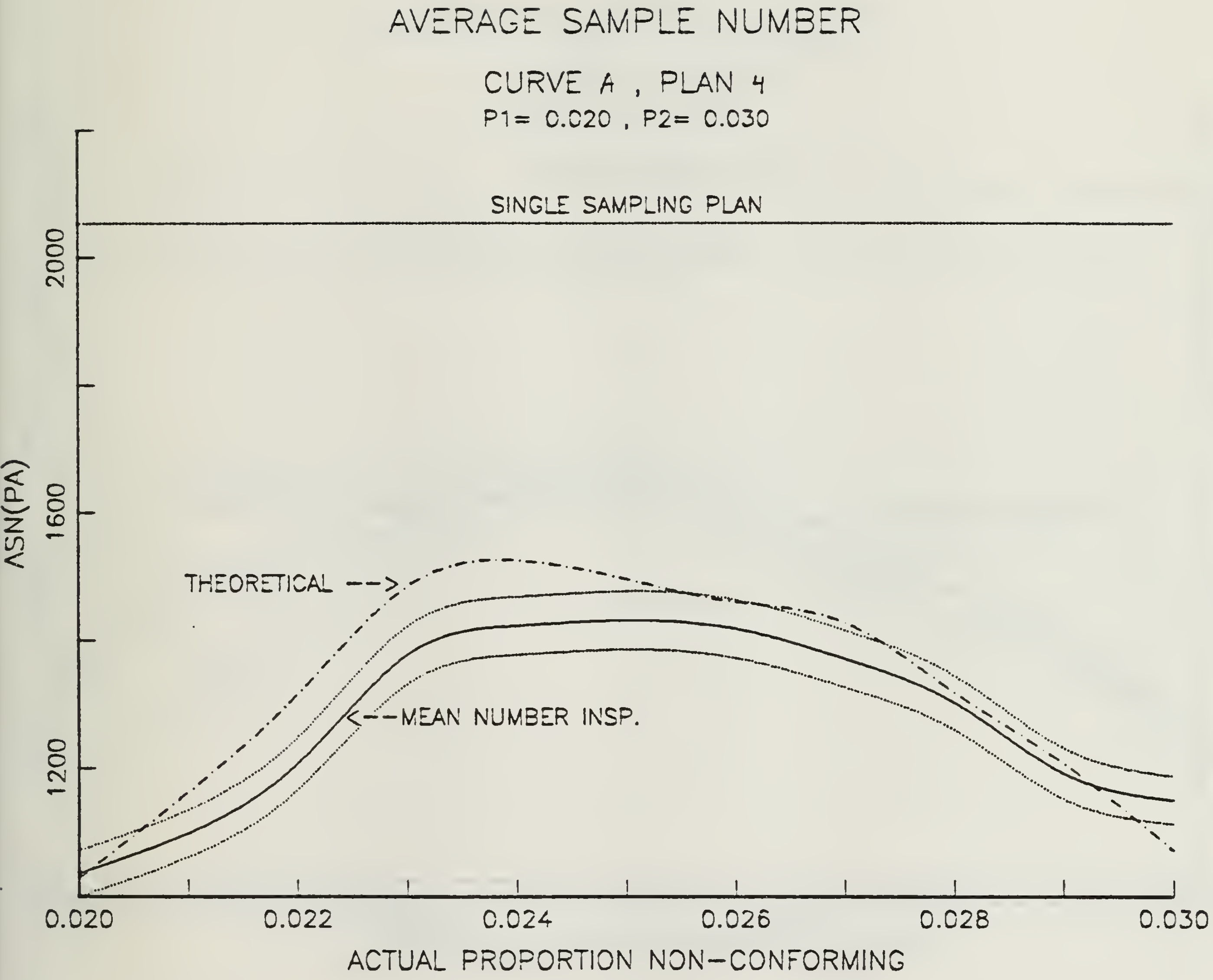
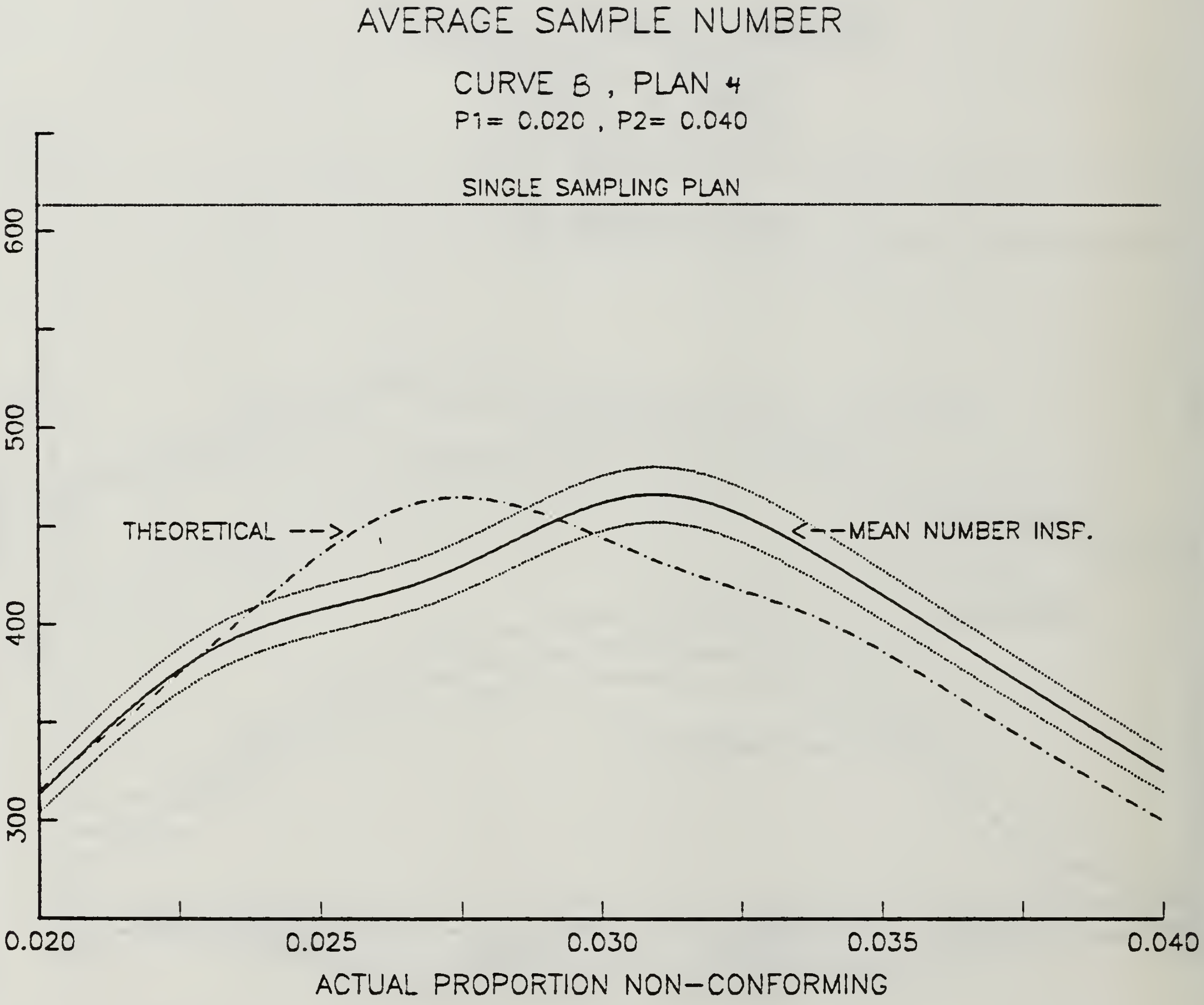


Figure 38 - ASN CURVE , PLAN SET IV , CURVE A

REPRODUCED AT GOVERNMENT EXPENSE



REPRODUCED AT GOVERNMENT EXPENSE

Figure 39 - ASN CURVE , PLAN SET IV , CURVE B

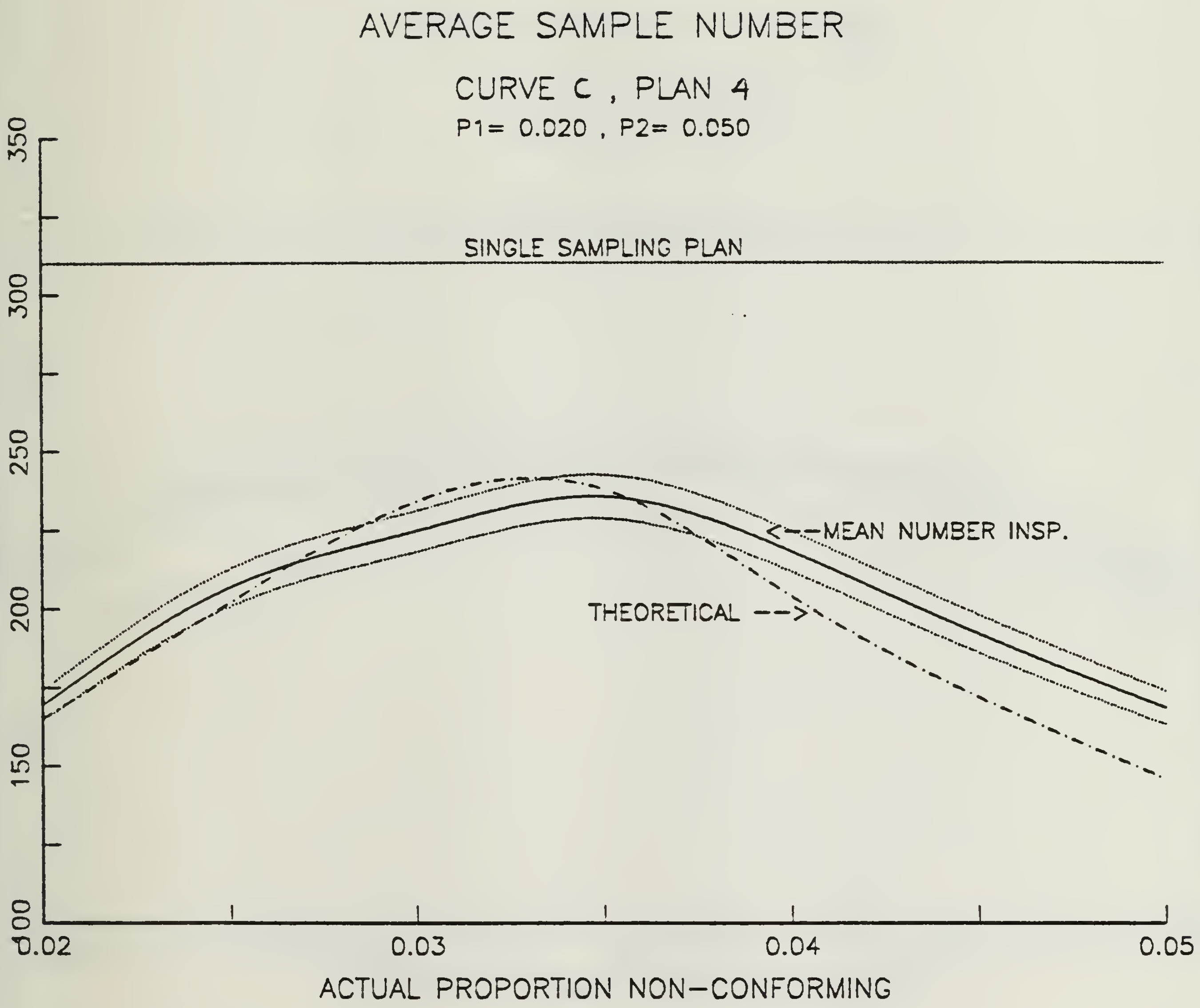
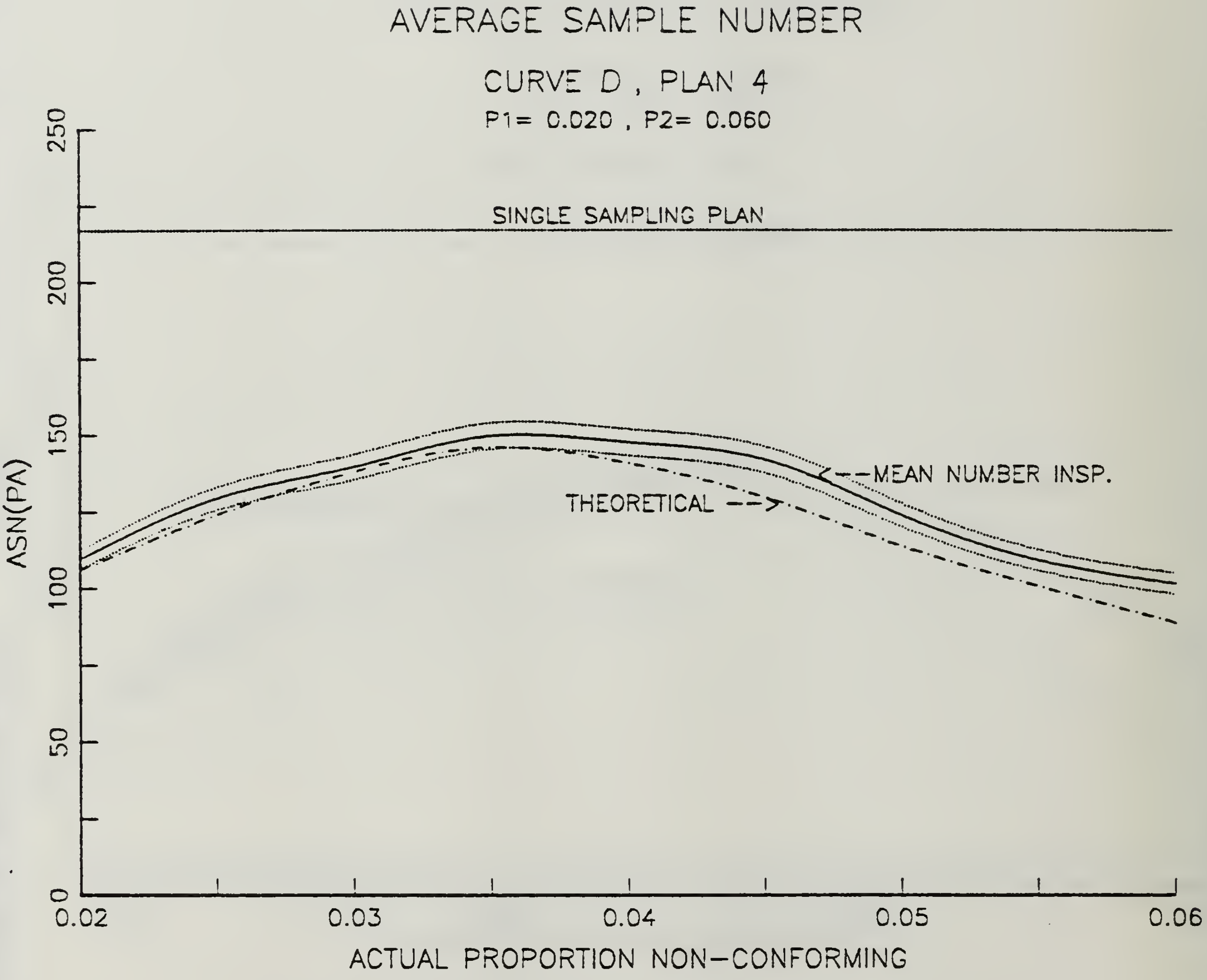


Figure 40 - ASN CURVE , PLAN SET IV , CURVE C

REPRODUCED AT GOVERNMENT EXPENSE



REPRODUCED AT GOVERNMENT EXPENSE

Figure 41 - ASN CURVE , PLAN SET IV , CURVE D

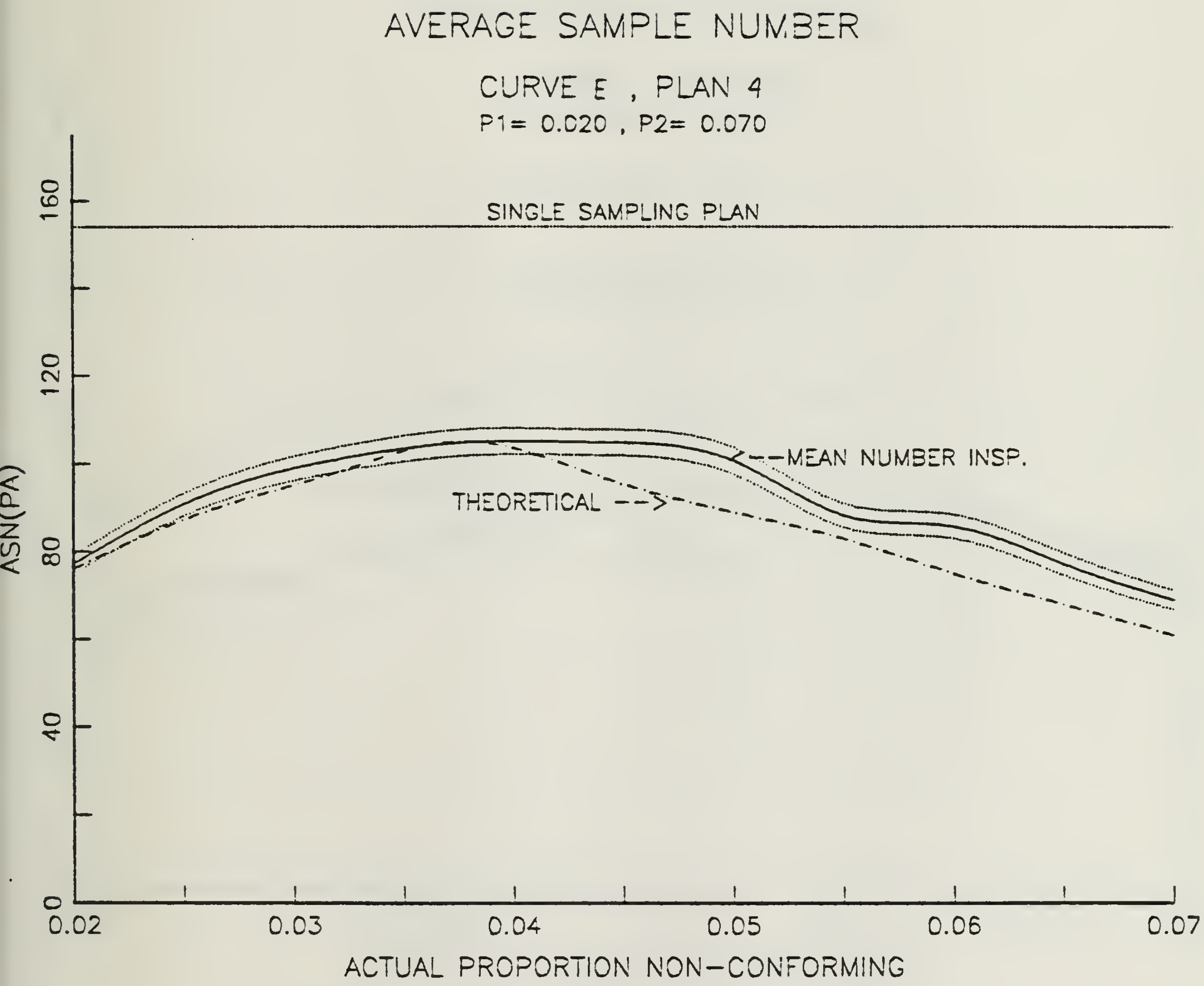


Figure 42 - ASN CURVE , PLAN SET IV , CURVE E

REPRODUCED AT GOVERNMENT EXPENSE

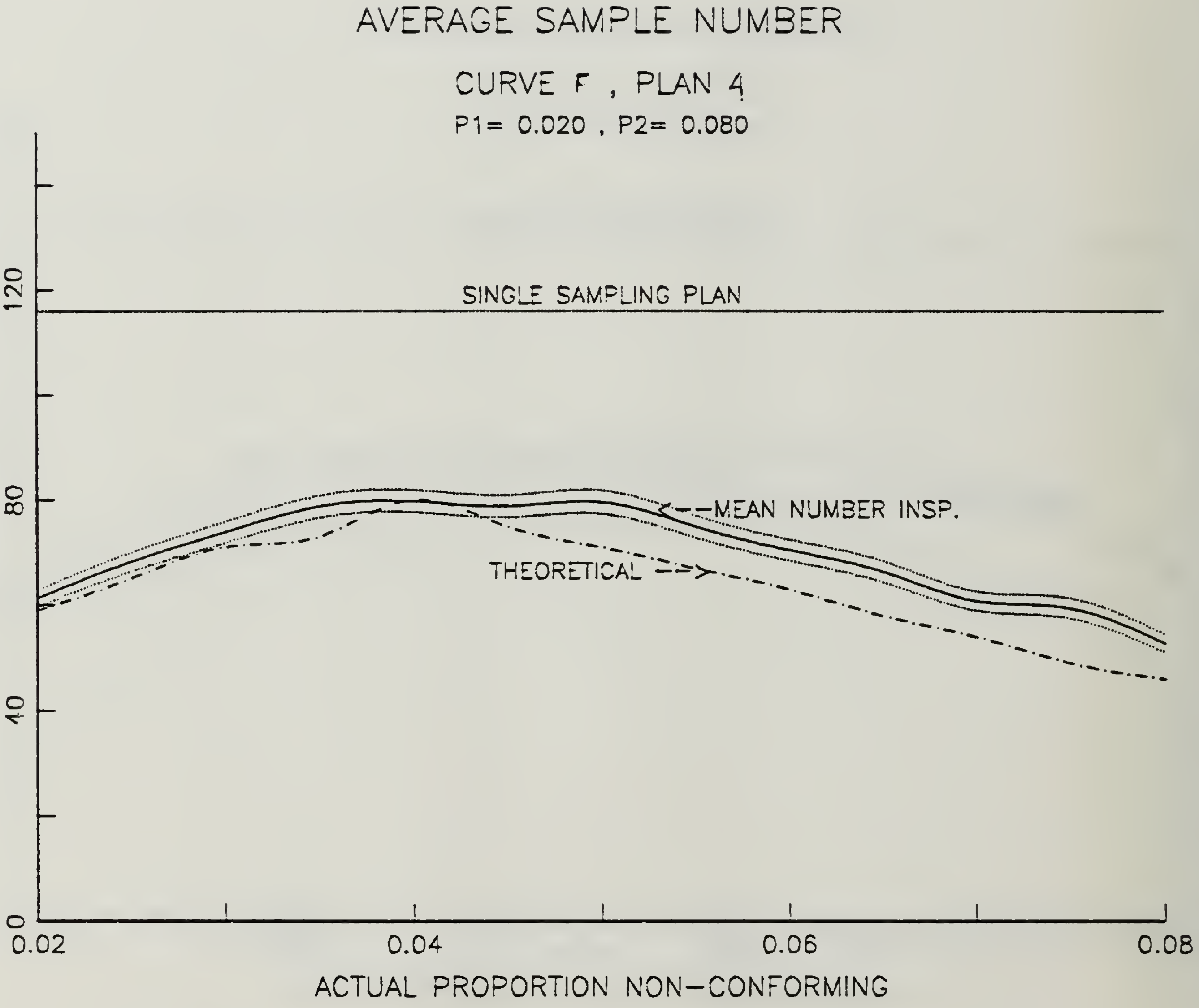


Figure 43 - ASN CURVE , PLAN SET IV , CURVE F

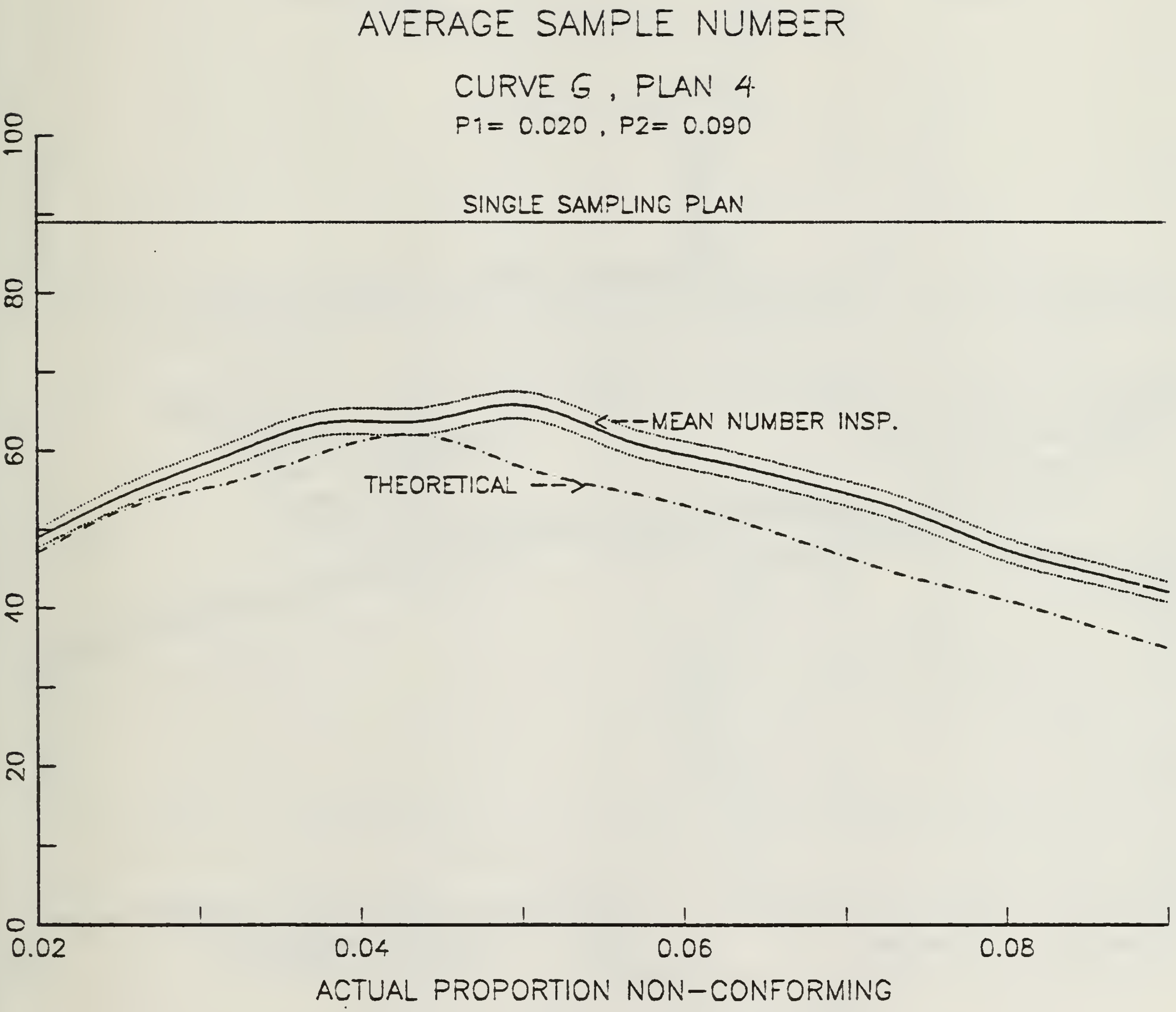


Figure 44 - ASN CURVE , PLAN SET IV , CURVE G

REPRODUCED AT GOVERNMENT EXPENSE

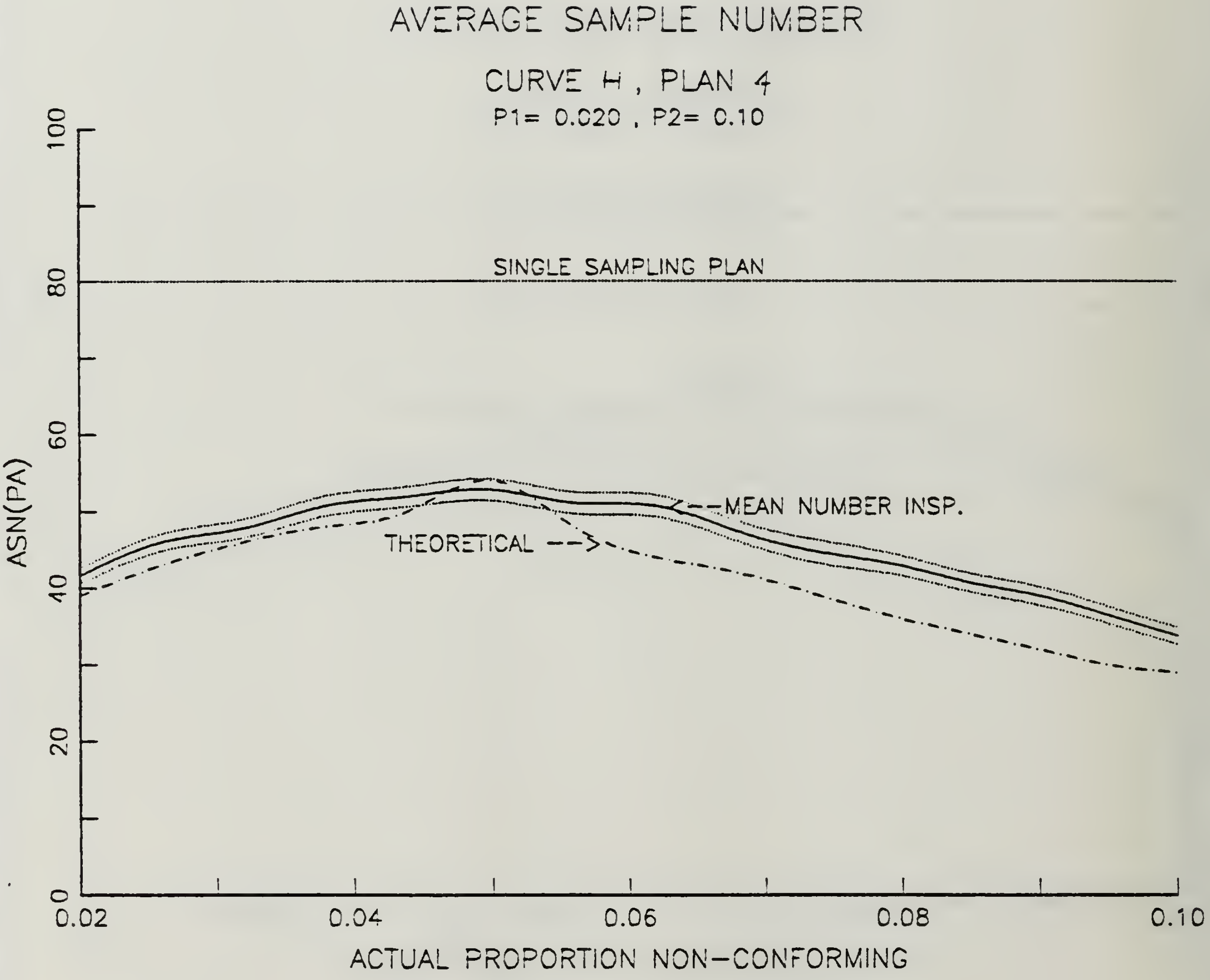


Figure 45 - ASN CURVE , PLAN SET IV , CURVE H

REPRODUCED AT GOVERNMENT EXPENSE

APPENDIX E

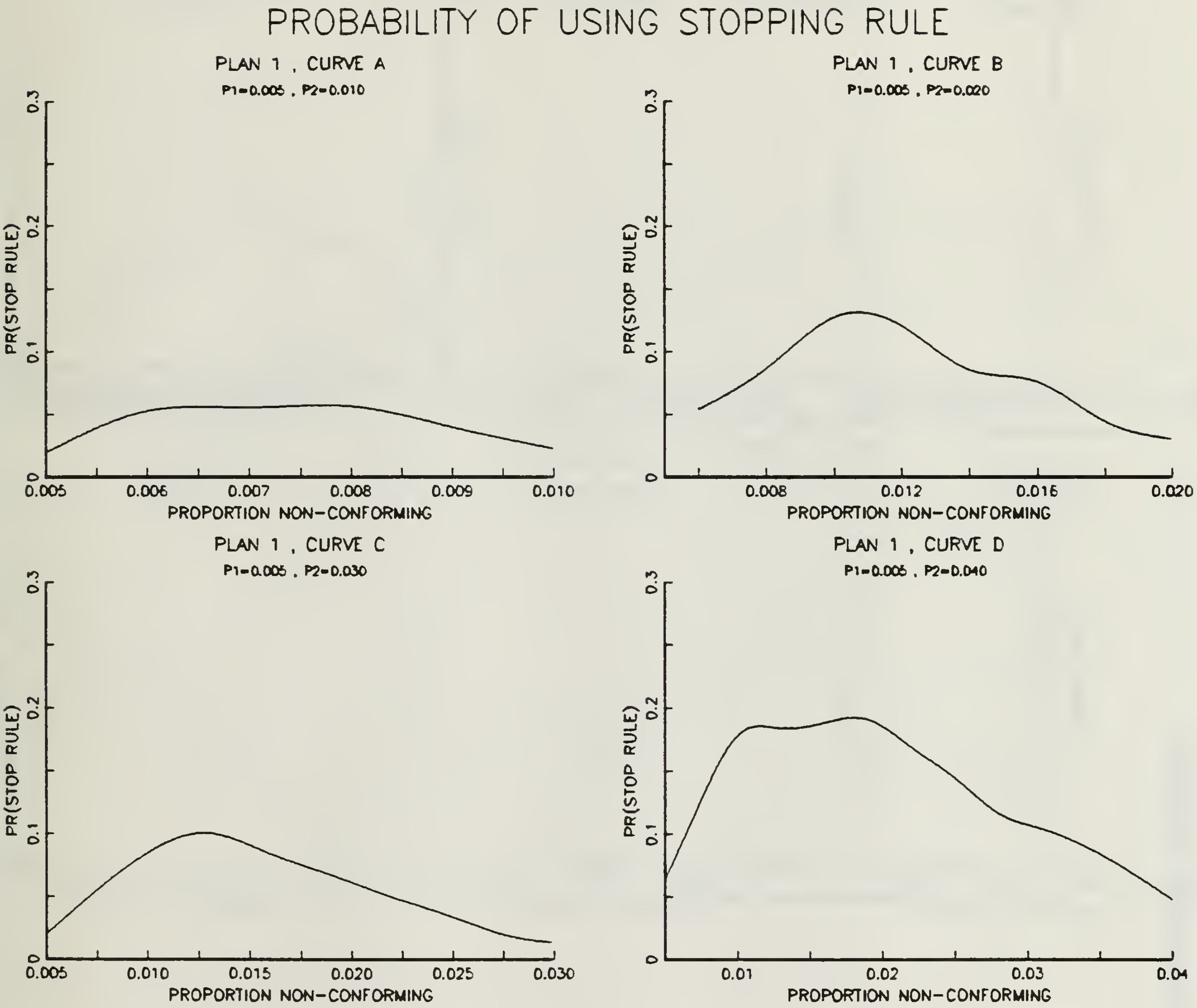


Figure 46 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN I , CURVES A THRU D.

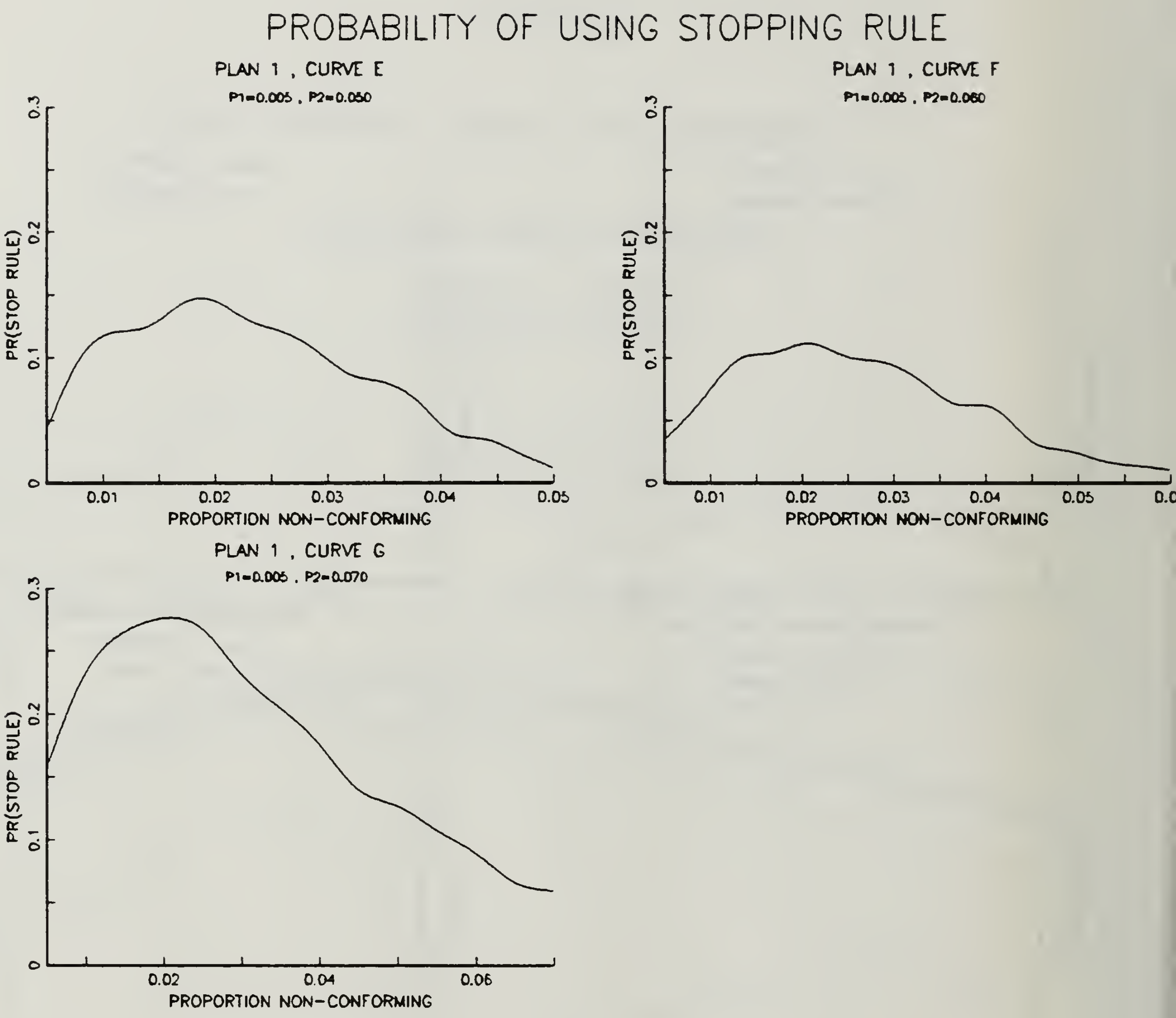


Figure 47 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN I , CURVES E THRU G.

REPRODUCED AT GOVERNMENT EXPENSE

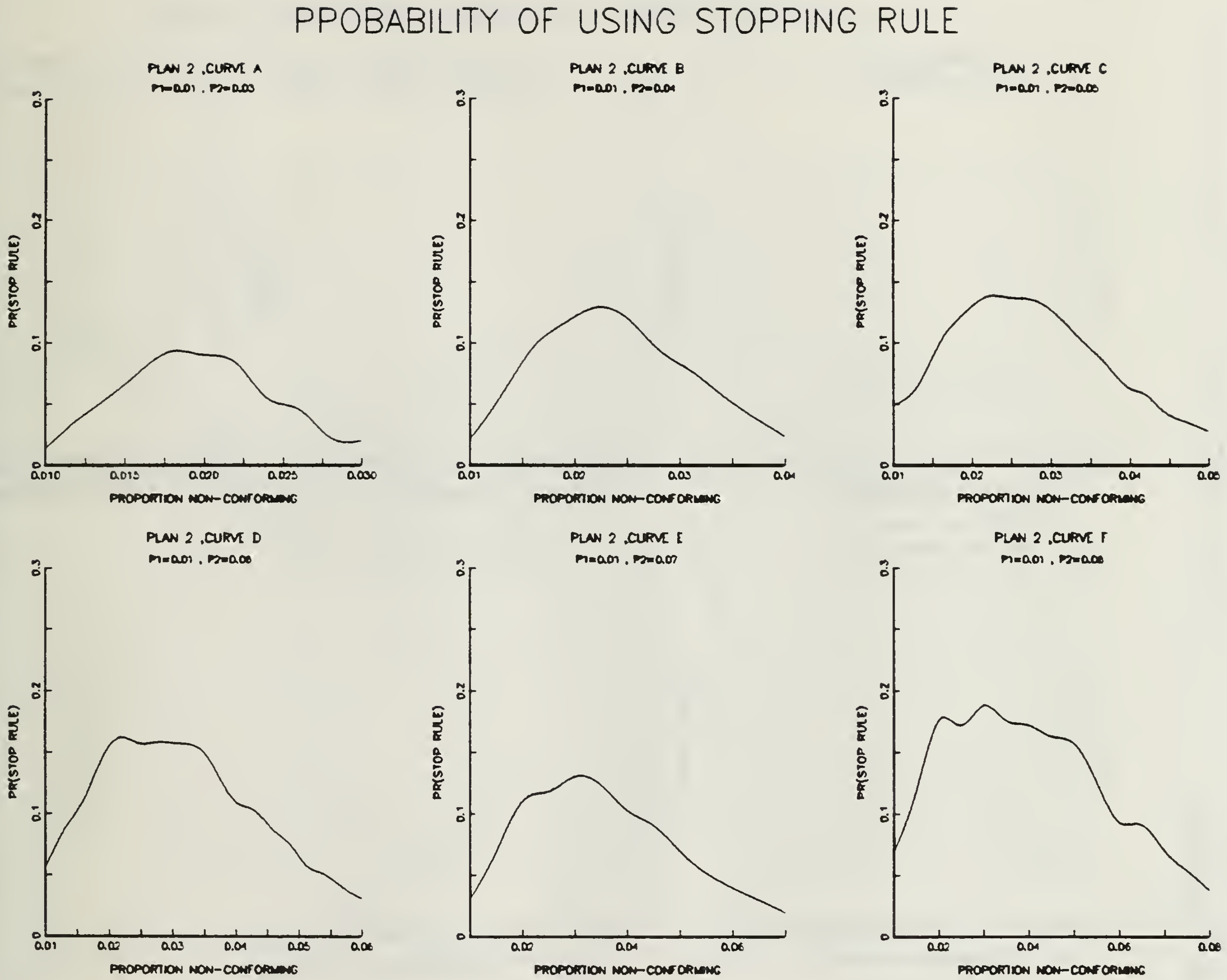


Figure 48 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN II , CURVES A THRU F.

REPRODUCED AT GOVERNMENT EXPENSE

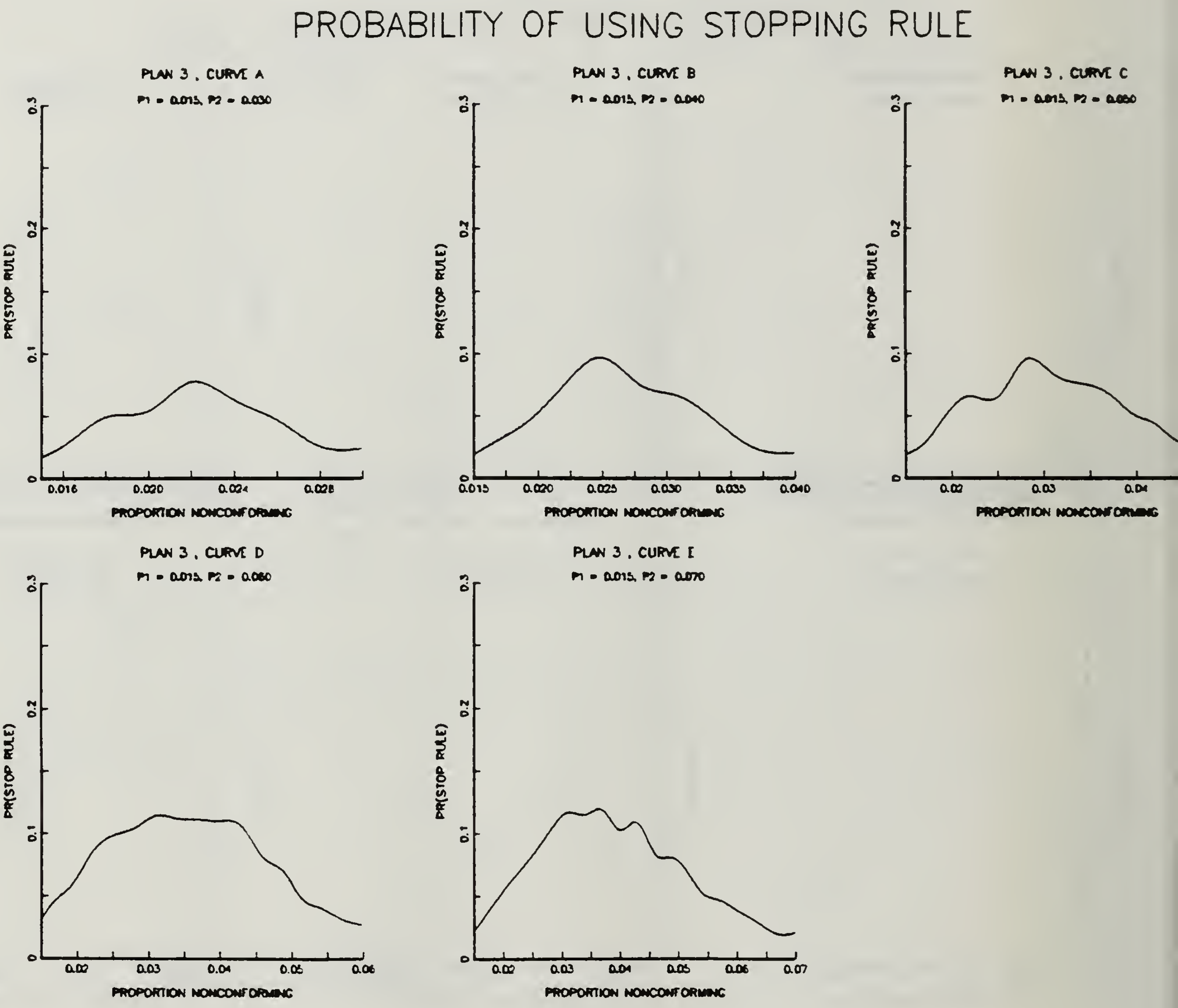


Figure 49 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN III , CURVES A THRU E.

REPRODUCED AT GOVERNMENT EXPENSE

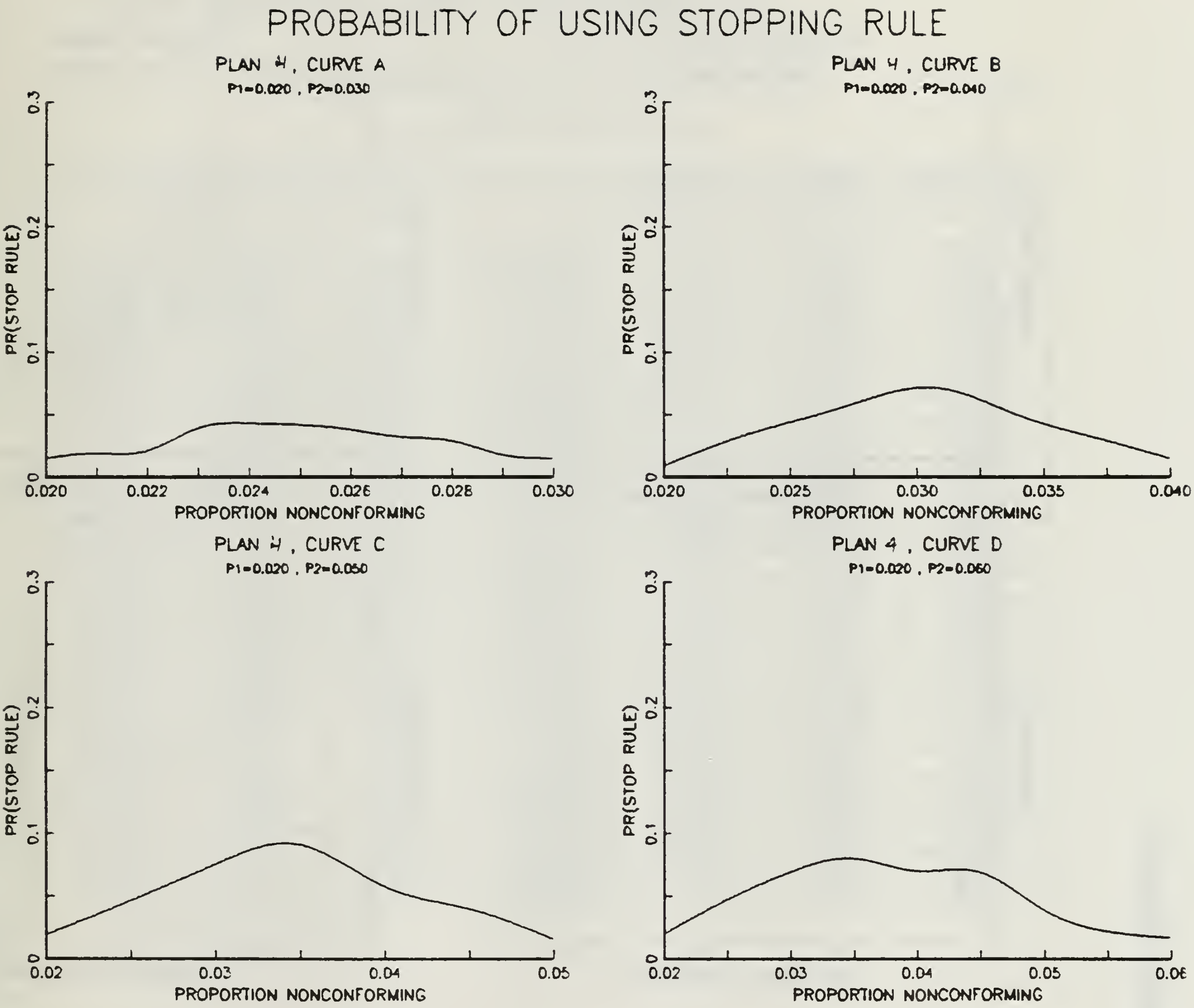


Figure 50 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN IV , CURVES A THRU D.

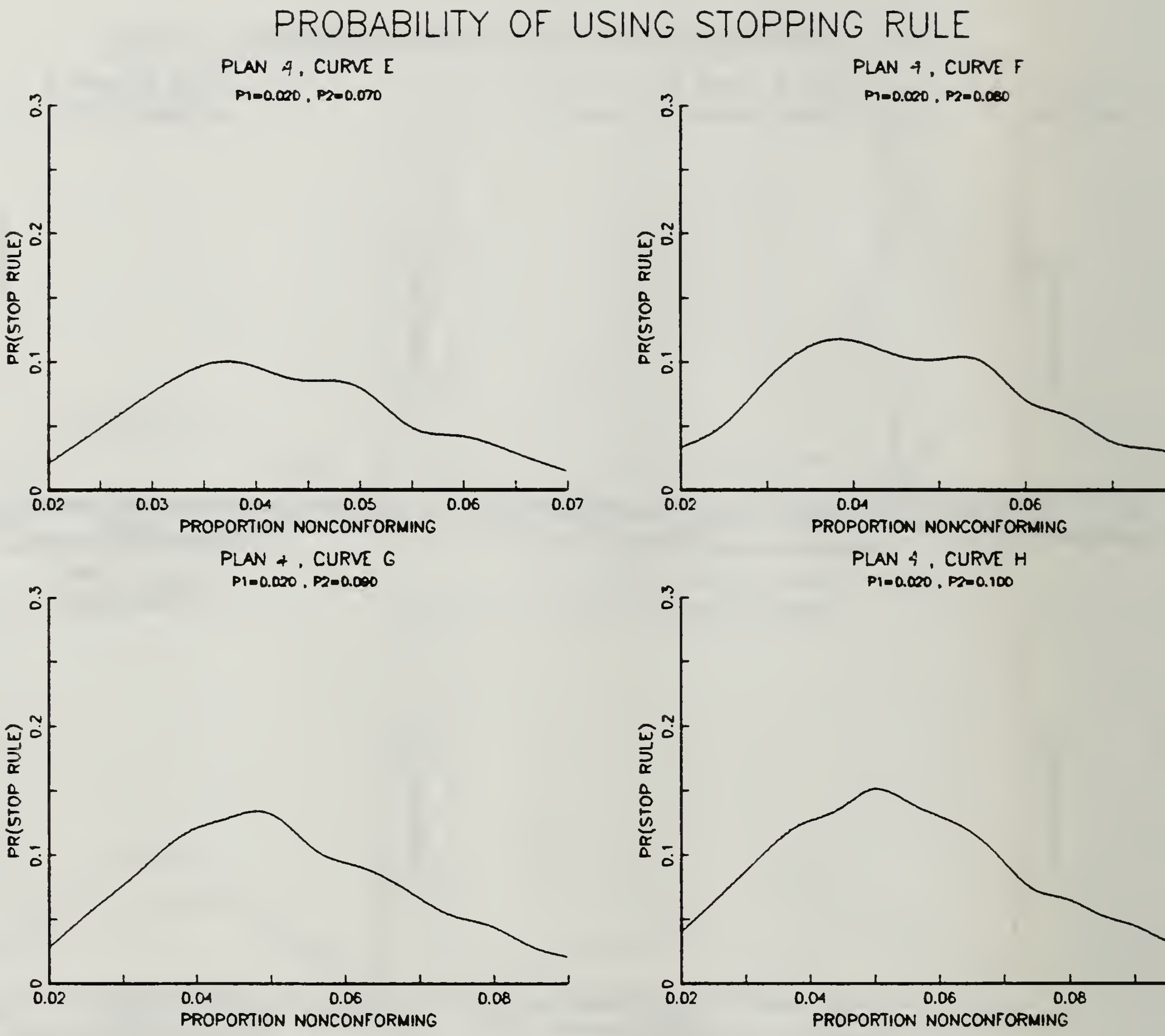


Figure 51 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN IV , CURVES E THRU H.

REPRODUCED AT GOVERNMENT EXPENSE

Table XXI - TESTING OF REGRESSION EQUATION FOR THE PROBABILITY OF IMPLIMENTING (h1-1) ACCEPTANCE RULE

P1	P2	Diff	s	Predicted Pr(NTP)	TRUE Pr(NTP)	difference
0.005	0.010	0.005	0.00722	0.088	0.057	0.03
0.005	0.020	0.015	0.01084	0.114	0.086	0.03
0.005	0.030	0.025	0.01400	0.128	0.101	0.03
0.005	0.040	0.035	0.01693	0.137	0.191	-0.05
0.005	0.050	0.045	0.01970	0.144	0.146	0.00
0.005	0.060	0.055	0.02237	0.149	0.112	0.04
0.005	0.070	0.065	0.02496	0.154	0.207	-0.05
0.010	0.030	0.020	0.01824	0.115	0.094	0.02
0.010	0.040	0.030	0.02172	0.126	0.130	0.00
0.010	0.050	0.040	0.02499	0.134	0.139	-0.01
0.010	0.060	0.050	0.02811	0.140	0.162	-0.02
0.010	0.070	0.060	0.03113	0.146	0.131	0.01
0.010	0.080	0.070	0.03406	0.150	0.189	-0.04
0.015	0.030	0.015	0.02166	0.103	0.077	0.03
0.015	0.040	0.025	0.02554	0.116	0.097	0.02
0.015	0.050	0.035	0.02917	0.126	0.095	0.03
0.015	0.060	0.045	0.03263	0.133	0.122	0.01
0.015	0.070	0.055	0.03596	0.139	0.119	0.02
0.020	0.030	0.010	0.02467	0.089	0.043	0.05
0.020	0.040	0.020	0.02889	0.107	0.071	0.04
0.020	0.050	0.030	0.03282	0.118	0.079	0.04
0.020	0.060	0.040	0.03655	0.126	0.091	0.03
0.020	0.070	0.050	0.04012	0.133	0.100	0.03
0.020	0.080	0.060	0.04359	0.138	0.177	-0.04
0.020	0.090	0.070	0.04696	0.143	0.132	0.01
0.020	0.100	0.080	0.05025	0.147	0.151	0.00

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